

1916.  
NEW ZEALAND.

EDUCATION:  
TECHNICAL INSTRUCTION.

[In continuance of E.—5, 1915.]

*Presented to both Houses of the General Assembly by Command of His Excellency.*

CONTENTS.

	Page		Page
1. Extract from the Thirty-ninth Annual Report of the Minister of Education (E.—1) ..	1	3. Tables relating to Technical Instruction— <i>continued.</i>	
2. Report of Inspectors of Technical Instruction ..	8	Science Examination of Board of Education, London, and Technological Examination of City and Guilds of London Institute .. ..	19
3. Tables relating to Technical Instruction—		Staffs of Technical Schools and Classes ..	20
Classes other than Classes at Technical High Schools .. ..	14	Appendix: Technical Instruction in the several Education Districts—	
Receipts and Expenditure of Technical Classes .. ..	15	Auckland .. ..	21
Summary of Balances .. ..	16	Taranaki .. ..	23
Students at Technical Classes other than Technical High Schools .. ..	16	Wanganui .. ..	24
Occupations of Students .. ..	17	Wellington .. ..	30
Group Courses .. ..	17	Hawke's Bay .. ..	35
Free Pupils .. ..	17	Nelson .. ..	36
Courses at Technical High Schools ..	18	Grey .. ..	38
Expenditure by Government .. ..	18	Westland .. ..	38
		North Canterbury .. ..	38
		South Canterbury .. ..	44
		Otago .. ..	47
		Southland .. ..	51

No. 1.

EXTRACT FROM THE THIRTY-NINTH ANNUAL REPORT OF THE  
MINISTER OF EDUCATION.

TECHNICAL INSTRUCTION.

GENERAL.

The work of the schools and classes has been generally satisfactory, and has proceeded on the lines of previous years. Local requirements in the way of technical instruction continue to be met as far as practicable by suitable modification and extensions of the curricula. There has been a very gratifying response on the part of the young people of the Dominion as a whole to the efforts of the school authorities in the directions indicated. It was expected, not without reason, that the returns for the year would show a considerable falling-off in the attendance. As a matter of fact, the reverse has been the case, and a substantial increase in the number both of classes and students has to be recorded.

The total number of students in attendance at all classes during the year was 20,202, of which number 6,983 received free education either under Government regulations or as holders of scholarships or free places locally provided. Capitation payments to controlling authorities totalled £48,475, being at the rate of £2·4 per student.

The practical interest taken by local bodies, industrial organizations, and others in technical education, which for years has been a prominent feature of the system, has been well sustained. Contributions in money from the above sources totalled over £5,000 for the year, and this in spite of the many calls on the community for patriotic and war purposes. These contributions, which carry a Government subsidy of £1 for £1, form a welcome addition to the funds of the school authorities.

The Government has, as far as financial considerations arising out of the war have permitted, favourably entertained applications for grants in aid of necessary buildings and equipment. The amount distributed during the year for these purposes was £13,461. Last year £14,753 was so distributed. New or additional buildings have been provided in connection with Napier Technical College, and Palmerston North, Westport, and Temuka Technical Schools, while necessary equipment has been provided for classes at the following schools, among others: "Elam" School of Art, Auckland; New Plymouth, Wanganui, Napier, Wellington, Christchurch, Dunedin, and Southland Technical Colleges; and Palmerston North, Westport, and Greymouth Technical Schools. About sixty specially designed and well-equipped buildings are now available for purposes of technical instruction. Where special buildings have not yet been provided (*i.e.*, in country 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 the Wanganui District, at twenty-eight in the Taranaki District, at eleven in the Otago District, at ten in the Auckland District, and at smaller numbers in the remaining nine districts.

#### CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS.

Classes were held at 168 centres, an increase of thirty. The number of classes and the number of individual students were as follows:—

Description of Class.	Number of Classes.		Number of Students.	
	1914.	1915.	1914.	1915.
(a) Conducted by Education or High School Boards ..	940	1,016	8,942	10,616
(b) Conducted by Technical School Boards or by Managers	621	636	6,651	6,855
(c) Conducted by University Colleges .. ..	170	165	1,009	776
Totals .. .. .	1,731	1,817	16,602	18,247

Capitation payments for the year totalled £27,490 (including £7,771 on account of free technical education), being at the rate of £1·5 per student. It has to be remembered in this connection that for these classes payment is not made on account of any student for more than 400 hour-attendances a year, and further that a large proportion of the students do not make more than from sixty to eighty hour-attendances a year. The rates of capitation vary from 2d. to 8d. an hour, according to the stage and nature of the instruction. These rates are increased by one-half in the case of classes in remote centres. An additional 3d. an hour up to £5 a year is paid in the case of students holding free places.

Of the above groups classes of the (a) group continue to be the most numerous and the most widely distributed. Most of the classes in the smaller centres belong to this group. Classes belonging to the (b) group, though held at a comparatively small number of centres (nineteen), constitute most of the largest and best-equipped schools in the Dominion. Classes of the (c) group are held at four centres, and include some classes not of university rank.

The number of individual students in attendance during the year shows an increase of nearly 10 per cent., which, in view of the disturbing influences arising out of the war, must be regarded as very satisfactory.

Some particulars as to the age, sex, and occupations of students are as follow :—

				Seventeen Years of Age and Under.		Over Seventeen Years of Age.		Totals.	
				1914.	1915.	1914.	1915.	1914.	1915.
Males	..	..	..	3,347	3,948	5,133	5,142	8,480	9,090
Females	..	..	..	2,816	3,361	5,306	5,796	8,122	9,157
Totals	..	..	..	6,163	7,309	10,439	10,938	16,602	18,247

#### SUMMARY OF OCCUPATIONS OF STUDENTS.

	Number of Students.	Percentage of Total.
Clerical pursuits .. .. .	1,996	10.9
Professional pursuits .. .. .	3,285	18.0
Students .. .. .	2,553	14.0
Domestic pursuits .. .. .	3,768	20.6
Agricultural pursuits .. .. .	1,524	8.4
Various trades and industries .. .. .	4,654	25.5
Other occupations not included in above .. .. .	467	2.6
	18,247	100.0

Of the total number of males in attendance 56 per cent. were over seventeen years of age. The percentage for the previous year was 60. A considerable decrease was expected in view of the number of young men who have enlisted. It is gratifying to find that it is so small. It will be noted that about half of the total number of students were females, and, further, that about one-fourth of the students were engaged in various trades and industries. It is also evident that the schools as a whole are catering for a considerable variety of trades and occupations.

#### NUMBER OF CLASSES HELD DURING 1914 AND 1915 IN CERTAIN SUBJECTS OF TECHNICAL INSTRUCTION.

Subjects of Instruction.	Number of Classes.	
	1914.	1915.
Commercial subjects .. .. .	277	259
Mathematics and science .. .. .	153	148
Mathematics and science applied to trades and industries .. .. .	432	477
Domestic science .. .. .	339	369
Art and art-crafts .. .. .	295	254
Continuation classes .. .. .	235	310
Totals .. .. .	1,731	1,817

Commercial subjects, though the number of classes is slightly less than last year, continue to be in general demand. Full courses, both elementary and advanced, are provided at the larger schools.

Engineering classes have, as in previous years, been well attended. During the year 164 approved classes were in operation, an increase of fourteen. The many and varied applications of electricity to industrial and other purposes and the rapid development of motor traction have of necessity influenced the character of the courses provided, and the school authorities are meeting as far as possible the increasing demand for instruction in electrical and motor engineering. Ten schools, including those in the four chief centres, are provided with well-equipped workshops, and offer fairly full courses, both elementary and advanced. Courses of university rank in mechanical, electrical, and civil engineering are offered at the School of Engineering in connection with Canterbury College, Christchurch.

Domestic subjects are included in the curricula of most of the schools. During the year 369 classes were held, an increase of thirty. As in previous years, a

number of classes have been held in country districts, the instruction in most cases being given by itinerant teachers. The special courses in home science and domestic arts at the Otago University continue to meet with satisfactory support. Of the thirty-three students in attendance twenty-seven took either the diploma or the degree course. The students included twenty-one prospective teachers of domestic subjects holding Government bursaries. The payments made by the Government during the year on account of these bursaries were at the rate of £63 per bursar. Eleven students, having completed their courses, are now engaged in teaching in the Dominion.

Classes, 134 in number, bearing on rural pursuits were held at eighty-eight centres during the year, and were attended by 2,400 students, an increase of 60 per cent. The subjects dealt with included agriculture, dairy-work, wool sorting and classing, shearing, veterinary science, horticulture, and orchard-work. The classes were in most cases taken by itinerant instructors at convenient centres. The results of the year's work, which must be regarded as distinctly encouraging, indicate that the action of the school authorities in the direction of providing facilities for instruction is meeting with appreciation in the right quarters. The fact that the farmers willingly contribute to the funds of the classes is a further indication that the value of the instruction is recognized.

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 ten and the latter at sixteen centres. The total number of entrees was 358, and the number of passes 232. The percentage of passes was 65. The Institute awarded a silver medal to an Auckland candidate for plumbers' work. At the National Art Competitions of the Board of Education, London, eighteen certificates of commendation were awarded to students of technical schools in the Dominion, indicating that the instruction in art generally is on right lines. The Board of Education, London, has announced that the Science Examinations will be discontinued after 1916, and that owing to the war the National Art Competitions are being suspended.

NUMBER OF STUDENTS TAKING GROUP COURSES.

Course of Instruction.	Number of Students.	
	1914.	1915.
Elementary and higher commercial, and general (including public examinations)	2,117	2,523
Practical mathematics and science .. .. .	97	159
Mathematics and science applied to trades and industries ..	1,378	1,417
Domestic science .. .. .	583	855
Arts and art-crafts .. .. .	646	684
Totals .. .. .	4,821	5,638

Group courses occupying not less than four hours a week and eighty hours a year were provided at forty-six schools, an increase of 18 per cent. About 30 per cent. of the students took such courses, the total number doing so being 800 more than in the previous year. The attendance at domestic courses shows an increase of 46 per cent., at commercial courses of 19 per cent., and at industrial and science courses of 7 per cent.

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

		1914.			1915.		
		Males.	Females.	Total.	Males.	Females.	Total.
Junior free pupils	First year ..	847	510	1,357	850	501	1,351
	Second year ..	555	365	920	549	358	907
Senior free pupils	First year ..	374	306	680	447	348	795
	Second year ..	247	208	455	305	262	567
	Third year ..	95	77	172	162	109	271
Totals .. .. .		2,118	1,466	3,584	2,313	1,578	3,891

About one-fifth of the students in attendance held free places as above. The total number of junior free pupils was 2,258, a decrease of 19, and of senior free pupils, 1,633, an increase of 326. Over 45 per cent. of the students who entered on junior free places in 1914 continued to attend in 1915. Of the total number of senior free pupils in their first year 30 per cent. had previously completed two years at technical classes as junior free pupils. The remainder were admitted either from technical high schools, secondary schools, or district high schools. In addition to the students holding Government free places, 465 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 seven school districts in Auckland, in six in Wanganui, and in one in Taranaki and Hawke's Bay respectively. The number of students attending under these regulations was 858, an increase of 422. Of this number 526 were males.

Capitation payments for the year on account of free technical education amounted to £7,771.

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.	
	1914.	1915.
Auckland Technical College .. .. .	1,620	1,451
Dunedin Technical College .. .. .	1,195	1,277
Wellington Technical College .. .. .	1,119	1,163
Christchurch Technical College .. .. .	1,295	1,156
Wanganui Technical College .. .. .	741	984
Palmerston North Technical School .. .. .	545	566
Dunedin School of Art .. .. .	617	535

The slight fall in the attendance noticeable in the case of some of the schools may fairly be ascribed to withdrawals as the result of enlistment.

The attendance generally must be regarded as satisfactory in view of the fact that it is for the most part voluntary. It is gratifying to note that the proportion of students who take up definite courses involving attendance on three or more evenings a week continues to be maintained.

While the number of students (18,247) under instruction last year indicates that a fair proportion of our young people recognize the value of the educational facilities that the technical schools afford, there are no doubt a large number of our young people for whom the schools have no attraction. Among these are a number who have left the public school without gaining a certificate of proficiency (one of the qualifications for a free place) and have gone to work, many of them taking up forms of employment that lead nowhere in particular. It is not unlikely that many of these would under appropriate conditions affording the necessary opportunities and stimuli eventually fit themselves to enter the ranks of the industrial workers of the Dominion. It is true that the Education Act provides the necessary machinery for requiring such young persons to attend technical classes, but the fact remains that although this machinery has now been available for nearly six years it was in 1915 put into operation in only fifteen school districts, confined to four education districts, all in the North Island. Whatever the reasons may be for the failure on the part of local education authorities generally to follow the lead given them elsewhere, it is obvious that some other means of gaining the desired end must be sought. A partial solution may be found in the extension of the present regulations governing free places so as to provide for the free education along certain definite lines of approved pupils leaving the public school without having qualified for further free education.

Regulations have been recently gazetted providing for the admission without payment of fees of duly accredited returned soldiers to technical schools. It is too early to form any reliable estimate of the extent to which the regulations are likely to be availed of, but it is gratifying to know that the schools, as was expected, are prepared to afford every facility to all soldier-students admitted under these regulations.

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.	
							1914.	1915.
Auckland	..	..	..	..	..	..	397	464
Wanganui	..	..	..	..	..	..	185	185
Wellington	..	..	..	..	..	..	285	254
Napier	..	..	..	..	..	..	79	108
Westport	..	..	..	..	..	..	14	20
Christchurch	..	..	..	..	..	..	414	421
Dunedin	..	..	..	..	..	..	288	304
Invercargill	..	..	..	..	..	..	177	199
Totals	..	..	..	..	..	..	1,839	1,955

The total enrolment for the year, which shows an increase of 6·3 per cent., must be regarded as satisfactory, indicating that the schools are catering successfully for a number of young people who would not otherwise proceed to schools of secondary grade.

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

Course.							Number of Pupils.		Totals.
							Males.	Females.	
Industrial	..	..	..	..	..	..	489	1	490
Commercial and general	..	..	..	..	..	..	333	688	1,021
Domestic	..	..	..	..	..	..	..	327	327
Agricultural	..	..	..	..	..	..	115	..	115
Art	..	..	..	..	..	..	..	2	2
Totals	..	..	..	..	..	..	937	1,018	1,955

Over 52 per cent. of the pupils took commercial and general courses, industrial courses being taken by 25 per cent. and domestic courses by 16·7 per cent. There was an increase of twenty-four in the number of pupils taking agriculture. Seven of the schools offered industrial, commercial, and domestic courses; in addition, four offered an agricultural course and one an art course, while one school (Westport) offered an engineering course only. Capitation payments totalled £20,985, being at the rate of £10·7 per pupil. The rates of capitation vary from £12 10s. a year for first-year pupils to £15 for third-year pupils in the case of free pupils and from £8 5s. to £10 in the case of other pupils.

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

		1914.			1915.		
		Males.	Females.	Total.	Males.	Females.	Total.
Junior free pupils	First year ..	465	489	954	501	505	1,006
	Second year	238	303	541	267	266	533
Senior free pupils	First year ..	57	91	148	60	121	181
	Second year	13	16	29	15	26	41
	Third year	1	1	2	1	7	8
Totals ..	..	774	900	1,674	844	925	1,769

Of the total number of pupils in attendance 90 per cent. were receiving free education under the Regulations for Free Places. Junior free places were held by 1,539 pupils, an increase of forty-four, and senior free places by 230 pupils, an increase of fifty-one. Of the junior free pupils admitted in 1914, 48 per cent. continued to attend in 1915, while about 21 per cent. of the pupils who completed the second year of their junior free places in 1914 qualified for and were admitted to senior free places in 1915. Of the pupils who left on completing their junior free places 16 per cent. qualified and were admitted to senior free places at evening classes.

## FINANCIAL.

The following is a summary for 1915 of receipts (exclusive of grants for buildings, rent, equipment, and material) and of expenditure under certain heads in respect of the two main groups of classes—namely, (a) those conducted by Education or High School Boards, and (b) those conducted by Technical School Boards or Managers (including in each case technical high schools).

RECEIPTS.					(a.) £	(b.) £
Capitation on attendances and free places	..	..	..	..	21,653	25,771
Voluntary contributions and subsidies thereon	..	..	..	..	2,554	5,814
Students' fees	..	..	..	..	4,013	5,259
Sundry receipts	..	..	..	..	4,855	4,458
Totals for 1915	..	..	..	..	£33,075	£41,302
Totals for 1914	..	..	..	..	£28,548	£47,156

  

EXPENDITURE.					(a.) £	(b.) £
Administration	..	..	..	..	6,970	8,606
Salaries of instructors	..	..	..	..	20,127	23,775
Sundry expenses	..	..	..	..	1,678	2,934
Totals for 1915	..	..	..	..	£28,775	£35,315
Totals for 1914	..	..	..	..	£25,370	£32,892

The total cost of administration was 21 per cent. of the total receipts in the case of classes of the (a) group and 20 per cent. in the case of classes of the (b) group.

The receipts and expenditure in respect of buildings, rent, equipment, and material for class use were as follows :—

RECEIPTS.					(a.) £	(b.) £
Buildings and equipment	..	..	..	..	6,227	6,500
Rent and material	..	..	..	..	829	1,965
Totals for 1915	..	..	..	..	£7,056	£8,465
Totals for 1914	..	..	..	..	£6,693	£10,527

  

EXPENDITURE.					(a.) £	(b.) £
Buildings and equipment	..	..	..	..	3,432	6,847
Rent and material	..	..	..	..	2,582	3,922
Totals for 1915	..	..	..	..	£6,014	£10,769
Totals for 1914	..	..	..	..	£6,068	£26,482

For the year the total receipts from all sources exceeded the total expenditure under all heads by £5,342 in the case of the (a) group and by £3,683 in the case of the (b) group, indicating that the school authorities as a whole were not during 1915 hampered by insufficiency of funds.

Of the annual statements of receipts and expenditure (nineteen in all) relating to classes controlled solely by Education Boards or High School Boards—i.e., (a) group classes—five show credit balances totalling £2,237, while fourteen show debit balances totalling £10,258. In the case of the statements (nineteen in all) relating to classes conducted by Technical School Boards or managers—i.e., (b) group classes—sixteen show credit balances totalling £4,882, while three show debit balances totalling £2,900.

It has to be remembered, however, that classes of the (a) group include most of those held at small country centres, whereas those of the (b) group include most of the larger self-contained schools. Thus, while it is the exception for a Technical School Board to conduct classes at more than one centre, it is the rule for an Education Board to carry on classes at a number of centres (in one case twenty-nine) in its district. Further, the funds of classes of the (a) group 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 of the (b) group. Thus during the year classes of the (a) group (over 1,000 in number) received contributions amounting to £1,179, as compared with £2,927 received by classes of the (b) group (over 600 in number).

The following is a summary of the expenditure by the Government on technical instruction during the year ended the 31st March, 1916 :—

Capitation—		£	£
Technical high schools (including free places) ..	..	19,309	
Other classes (including free places) ..	..	30,729	
Subsidies on voluntary contributions ..	..	5,323	
Grants for buildings, equipment, material, rent, &c. ..	..	10,365	
			65,726
Railway fares, &c., of instructors and students ..	..	3,677	
Bursaries .. .. .	..	1,316	
Examinations .. .. .	..	418	
Inspection and other expenses .. .. .	..	1,101	
			6,512
			72,238
Less recoveries (examination fees, &c.) .. ..	..		149
			£72,089

The expenditure was at the rate of £3·5 per student. Included in the total is £2,390 from national-endowment revenue. The total expenditure for the previous year was £73,155.

## No. 2.

### REPORT OF THE INSPECTORS OF TECHNICAL INSTRUCTION.

SIR,—

We have the honour to submit the following report on technical instruction in the Dominion during the year ending 31st December, 1915.

#### GENERAL.

As was to be expected, the reports on the year's work furnished by the technical school authorities reveal the fact that the work of the schools generally has suffered considerably on account of the large number of male students who have volunteered for active service. In some cases the depletion in the attendance has been such as to necessitate the suspension of some of the classes. The trade classes in particular appear to have been hard hit in this respect. As more than half of the nine thousand male students in attendance during the year were over seventeen years of age it is not surprising that New Zealand's answer to the call of the Mother-country has caused some disturbance in the internal arrangements of the schools. It is, however, gratifying to note that the total number (18,247) of students under instruction during the year shows an increase of nearly two thousand, due largely to an increase in the number of young students entering the schools.

The demand for young people to fill clerical positions as the result of the drain due to the necessity for maintaining reinforcements has been reflected in the year's work, as is shown in the increase in the number of students taking commercial subjects. A pleasing feature is the substantial increase (over 45 per cent.) in the attendance at classes for domestic subjects, indicating that the school authorities are alive to the importance of this branch of technical education.

Mention must be made of the success which has attended the efforts of the staffs and students of the schools as a whole in the direction of assisting the many schemes for providing help in money and kind for those on whom the burden of the war has fallen most heavily. Frequent references to what has been done in the various districts will be found in the reports in the Appendix of the directors of technical schools.

In view of the abandonment by the Board of Education, London, of examinations in separate art subjects, and the substitution in place thereof of an examination in the several branches of drawing, painting, modelling, &c., covering so wide a field in each branch as to place the average colonial student at a disadvantage in the matter of drawing-certificates, it appears desirable, as soon as circumstances permit, to inaugurate a special departmental examination in art subjects, and to issue a New Zealand drawing-certificate based on the principles of this examination. The results of the examinations held under the new scheme show that only the most capable students attending the large art schools in the Old Country have any hope of securing a certificate under the new conditions, and it appears unlikely that colonial students will be able for some years to comply with the conditions and sit for the English examination with any prospect of success. A further reason for the establishment of the New Zealand examination appears to be that while the ordinary school examination serves a useful purpose, an outside examination would provide a stimulus to work, and tend to promote a healthy rivalry among the art schools and classes of the Dominion.

It is gratifying to report in connection with the classes bearing on the building trades that there are indications of a more practical interest being taken by those concerned in the whole question of the training of apprentices and young mechanics than has hitherto obtained. In some districts the



carpenters' award permits of additional wages being paid to apprentice carpenters who attend approved classes at a technical school and pass satisfactorily an examination at the end of the year. This practical recognition by employers of a lad's effort at self-improvement, and therefore increase of efficiency, will doubtless offer strong inducements to apprentices to attend a technical school, and although the results attained may not be so satisfactory as would be the case if the student attended classes during the day, the fact that the value of technical instruction has received recognition of a practical nature and that encouragement of this kind has been given augurs well for the future. Another very important movement is that taken by the Council of the New Zealand Institute of Architects in connection with the training of the young men for the architectural profession. At two centres classes for architects' assistants have been established, and the course of instruction is arranged to meet the Institute's requirements, and it may be expected that as soon as the Council's plans have been perfected a succession of students in architecture will be assured at the larger schools.

The opinion is expressed, based on an intimate knowledge of the technical schools of the Dominion, that so far as the technical training of apprentices and young mechanics is concerned under present conditions of training the classes, speaking generally, have reached the limit of their usefulness, and the question arises as to whether we are to rest satisfied with our present conditions, and make the best of them by perpetuating them, or whether the lessons which have been brought home to us so forcibly by the present war shall be taken to heart, and a forward movement inaugurated. The time is past for any questioning of the value of technical training. It is accepted on every hand, and we believe rightly, that such training provides a means of raising the efficiency of the individual as a worker, and of enhancing his value to the community in this and other respects, and the only obstacle to the placing of this training on a completely satisfactory basis appears to be focussed on when and how that training is to be given. That this cannot satisfactorily be accomplished as at present by the attendance of students at evening classes is almost universally accepted in this and other countries by those who may be regarded as best able to pass an authoritative judgment on such matters. It requires little imagination to realize that the average growing lad who works from 8 a.m. to 5 p.m., necessitating an early start from home in the morning, a hurried return, a hurried dinner, and preparation for commencing class-work at the technical college at 7 p.m., is not in a physically fit condition to apply himself fully to concentrated mental effort for two hours and attain the best results. Employers in Great Britain and other countries who are thinking about the problem of technical training on broad lines have long ago come to the conclusion that if they and their apprentices and young craftsmen are to get full value from attendances at a technical school the technical training will have to be done when the lad's mental powers are in a more active and retentive condition than they are after a day's hard work at vice or machine. Some of the broader-minded employers have accordingly made provision for the attendance of these lads at classes held during the day by allowing time off, in some instances going so far as to establish classes in their own works, providing the class-room and the whole of the apparatus, including instruments and drawing-material, the instruction being given by members of the staff of the local technical school. Something on similar lines has been done in the Australasian States. In Victoria, for instance, apprentices from the Newport Government Railway Workshops attend the Melbourne Working-men's College on two afternoons of each week, and the apprentices at the Sunshine Harvester Works are allowed time off during the day to attend the Sunshine Technical School. The Colonial Ammunition Company also makes a similar concession. So far this aspect of technical training has only received academic consideration in the Dominion, the reason being that employers do not appear to have fully realized that technical training is an integral part of industries, and divorced from them it is practically meaningless and useless; consequently there is no recognition of the real function of the technical school and its relation to the trades and industries of a district.

In connection with some of the technical colleges advisory committees or boards of control, composed of masters and men representing particular trades, have been set up, and serve admirably to bring employers and employees, and consequently the trades concerned, into close relationship with the school. Provided that such bodies were composed of men who were not prepared without due consideration to accept the present-day relationships of the industries and the technical college as quite satisfactory and final, and who were themselves thoroughly familiar with the technical requirements of the industry they represented, and of the best way in which the technical college could meet those requirements, something might be done to show employers that it was worth while making the sacrifice of a small immediate return by allowing apprentices time off to attend classes, in view of the larger return that intelligent and well-trained operatives must bring to them later on. So long as industries are organized on the principle that all the thinking and planning and arranging must be done at the office end, and the valuable asset that is to be found in intelligent, thoughtful, and resourceful workmen is ignored, the association of an industry and the technical college will be a loose one; but when the efficient workman is assessed at his full value, and the working-conditions are arranged to permit him doing his best both in the workshop and the technical class, the technical school and the industry will co-operate in the most effective way.

It has been said that "something approaching an industrial revolution will be necessary before the training of the apprentice can be put on a satisfactory footing," and if this "industrial revolution" can be directed so as to take the form of a reorganization of the industries of the Dominion with a view to making it a *sine qua non* that every young industrial worker shall receive technical training as part of his trade training, then such should be welcomed. The opinion is, however, expressed that what is needed should be effected by evolutionary rather than by revolutionary processes, and 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 its apprentices,

there is little doubt that other departments and private firms would follow. The Railway Department has a large number of youths in its employment in the workshops at Newmarket, Napier, East Town, Petone, Addington, and Hillside, and there are well-equipped and efficiently staffed technical colleges within easy reach of all of them. Nearly forty years ago the superintendent engineer of an important English railway, knowing the value of trained workmen and the value of technical training, made attendance compulsory at certain technical classes specified in the indentures for all apprentices at the main railway workshops, and provided the class-rooms, the necessary material, and the instructors. Surely, with our present-day fuller knowledge a similar enlightened policy might with advantage be followed.

#### TECHNICAL HIGH SCHOOLS.

Since the inception of this type of school the general organization and courses of instruction have to some extent been in a state of flux, largely due to the fact that the adaptation of the instruction to business and trade requirements has only been possible as these became more fully known to those responsible for shaping the courses, and to the difficulty of providing a staff of instructors for each course having a sound technical knowledge of their subject and the power to impart it to others. It is gratifying to be able to state that the future craftsmen and workers in the principal centres of the Dominion can now, if they choose, enter upon a course of foundation study of the craft or trade they have selected, well adapted, from the technical standpoint, to their needs. The several subjects of each course are in charge, for the most part, of instructors having an intimate knowledge of their subject, and the instruction is given in class-rooms, laboratories, or workshops, as the case may be, equipped with most of the apparatus that modern teaching demands. It is considered that a complete adjustment of the organization of the technical high schools can only be accomplished when the work done therein receives a wider trade recognition. The value of the training given both to the individual and to the nation has passed beyond the debatable stage, and it is now generally acknowledged that quickened intelligence, broader outlook, and clearer insight combined with manual dexterity are valuable assets to both employers and employees; and if any one of these are gained by lads passing through the technical high school it has a monetary value to the employer, and should be recognized by either increased wages or by counting the three school years as some part of apprenticeship. The recognition by the Marine Department of time spent in an approved course in engineering as counting towards the qualifications for a third-class marine engineer's certificate is already having a salutary effect upon the engineering course, and as soon as employers satisfy themselves that it is to their pecuniary interest for apprentices to have had some preliminary theoretical and practical training before entering the workshop, and recognize in a practical way that the theoretical training must continue during the period of apprenticeship, the question of the supply of intelligent and well-trained workmen should be practically settled.

The European war has, among other things, directed attention in the Homeland to the necessity for a review of fundamentals in education, and one conclusion already arrived at is that the study of science has been too long neglected; and, further, that if the nation is to regain and hold the commercial supremacy it once had, the study of science in its application to industries must take a very much more important place in our system of education than it has hitherto. That science has not in the past received adequate attention in this country is a matter of common knowledge. It is therefore all the more gratifying to report that, speaking generally, the time devoted to science and principles at the technical high schools is in relation to their importance, and although the opportunities of making any direct application of science to industry are obviously limited, a lad showing originality or predilections for research is not likely to go undiscovered; and when the organized industries of the Dominion attain the position which demands the employment of scientists as well as mechanics we should be in the position to meet the need and not be compelled to rely solely on external sources of supply.

The courses provided at the technical high schools are related to commercial, domestic, industrial, and agricultural life, and the following short comment on each course is intended to indicate, in a general way, what is being done.

*Commercial Course.*—This course is attended by an increasing number of pupils, and is arranged to provide instruction in the fundamentals of modern office methods and work; and while in the earlier stages the course of instruction is necessarily somewhat academic, it is, in the main, so closely related to everyday business practice that students on entering the office have nothing to unlearn, but can at once apply the principles and practice acquired at the technical high school. In this connection the question arises whether the function of the course should be limited to the preparation of junior office assistants. There appears to be substantial reasons why something higher should be aimed at, particularly for apt pupils who may be encouraged to continue their studies as holders of senior free places with a view to matriculation and the degree in commerce. The difficulty of obtaining trained instructors having a sound knowledge of the principles and history of commerce and an intimate acquaintance with business methods appears to be a cogent reason for encouraging likely students to continue their studies.

*Domestic Course.*—Many reasons may be assigned for the small proportion (about 30 per cent.) of the girls attending this course, the principal being the opening of so many other avenues of employment for girls. The course of instruction is thoroughly practical, with a sufficient training in the scientific principles to give interest to the practical work. A pleasing feature of this course is the number of instructors in domestic subjects in various parts of the Dominion who have received their preliminary training at one or other of the technical colleges; and with the facilities now provided for the continuance of the study of domestic science up to University standard, the hope is expressed that, with the view of preparing students for the higher work, and insuring a supply of

well-trained teachers in the various branches of this subject, more time will be devoted to elementary science in the domestic course.

*Industrial Course.*—Provision is made in this course for a sound preliminary training in carpentry, joinery, and cabinetmaking, and in mechanical and electrical engineering. All the schools (eight in number) now have workshops well equipped with modern machine tools, and the necessary apparatus and equipment for carrying out a full course of elementary instruction in both theoretical and practical work. The instruction throughout is for the most part on good modern lines with a sound foundation of mathematics and mechanics, the trend being in the direction of having all problems as far as possible closely related to those the students are likely to meet in actual workshop practice. It appears necessary again to refer to the desirability of placing the teaching of mathematics, which is one of the most important tools of the engineer, in charge of the instructor in engineering, who in his teaching is more likely to employ genuine concrete problems such as the workshop supplies than the instructor who views mathematics as a subject of instruction without reference to its application. To meet the requirements of those who aim at obtaining the third-class marine engineers' certificate as early as possible, it is to be hoped that the engineering workshop practice will be arranged to include constructional work, and, generally, in preliminary exercises, to avoid those which serve no useful purpose other than to supply practice in the use of hand tools. The arrangement of a series of elementary practical exercises of general utility giving practice in the use of the principal hand tools, and involving the application of elementary principles, should not present any unsurmountable difficulties. The course in woodwork, while not as popular as engineering, offers a sound elementary training in the principles and practice of carpentry, joinery, &c. The practical exercises are almost entirely confined to handwork, which affords excellent practice in setting-out from drawings previously made by the students, and in carrying to completion by hand pieces of detail work which under ordinary workshop conditions would be regarded as journeyman's rather than apprentice's work. At most of the schools comparatively large sums have been raised for patriotic purposes by the sale of articles made by the lads taking the course in carpentry; many of the articles seen were good examples of sound design and workmanship, and appeared to serve the double purpose of raising funds and providing an excellent and varied series of exercises of exceptional value to the lads.

*Agricultural Course.*—The comparatively small number of students (about 12 per cent.) taking this course has provided much food for thought. The course, while not generally supplying practice in actual farm operations, does provide plenty of opportunities for carrying out series of related experiments both in the laboratory and the field which may have far-reaching results, and this added to theoretical and practical work in botany, chemistry, geology, and animal physiology make up on the one hand an elementary course admirably fitted to equip those who are to work on the land with a scientific basis for further study, and on the other forms a good starting-point for those who desire to take more advanced work; and the question arises why the course fails to attract more students. It may be that it is another illustration of the truth of the old saying, "The farthest fields are always greenest." The need for the higher training of those who are to be the future agriculturalists and pastoralists of the Dominion has often been voiced. For various reasons no attempt will be here made to indicate how this need may best be met. Suffice it to say that it is understood that the matter is receiving attention in the proper quarters, and that the adoption of a definite scheme of systematic training capable of general application will be one of the many important matters to be dealt with when conditions generally are more normal than at present. In the meantime it would appear that the natural course to pursue lies in a more extensive use of the facilities at hand.

#### DAY AND EVENING CLASSES.

*Art.*—It was fully expected that the disturbing influences of the war would have seriously affected the attendances at classes in pure and applied art; but it is gratifying to report that while the roll number of some of the classes has fallen, the average attendance at the art classes generally has been fairly well maintained, and evidences of a deeper earnestness and a closer application to their work are not wanting among the students. The number of classes in operation was 295, as compared with 254 for the previous year, while group courses were taken by 646 students, a decrease of thirty-eight.

With reference to the courses of study provided at the principal schools it is satisfactory to note that, while it is obviously impossible to arrange the courses so that they directly bear on local industries, a very earnest attempt is made to render the art teaching in both the elementary and advanced grades as purposeful as possible; and it is a matter for regret that so many of those engaged in trades, to whom a knowledge of drawing, modelling, and design would be of incalculable value in their daily work, do not enrol as students. There is, however, this compensation, that much good work is done by many earnest students in subjects more or less directly bearing on their occupations. As an illustration of this, at one of our art schools a furniture salesman was taking a course in perspective and object-drawing for the express purpose, it was gathered, "of acquiring the ability to make a perspective sketch of a piece of furniture suitable for forwarding to prospective buyers." Isolated instances of this type could be multiplied; but the fact remains that many who would increase their efficiency as workmen by taking up the study of a branch of art cannot be induced to attend the classes.

The improvements in the methods of instruction appear to be well maintained, and there are indications that the development of the students originality and powers of individual expression are considered to be of more importance than the development of the imitative faculty. This may be regarded as a most important step in the forward movement, as self-reliance and a memory well stored with "facts and forms" and the power to express them intelligently in various media are valuable assets to the art worker.

Fairly adequate provision both in instruction and means of expression is made at the chief centres in all branches of pure, and in many branches of applied, art, so that every reasonable opportunity is afforded to the earnest student to discover the means by which he can best express himself in terms of art; but it may not be out of place to give the reminder that every piece of work and every study produced by each student should represent his own unaided efforts. The readiness of instructors to give of their best to all their students may prove a hindrance to the students' true progress. A little touch here, the correction of a line or of a tone there, may make all the difference between a satisfactory and an unsatisfactory study. To add this touch and to make that correction for the student is an easy matter for the instructor, and the temptation to help thus is great; but is it in the best interests of the student that they should be helped in this way? It may be a much easier method of instruction to make the correction than to lead the student to discover the error for himself, but if the path of least resistance is followed by the instructor does it not tend to the creation of false standards? All things considered, therefore, it appears to be in the best interests of students for the instructor to refrain from directly correcting the drawing, and to confine his assistance to verbal criticism and easily erased marginal notes on the students' studies, with a view to assist them to discover the errors, and give suggestions as to the best method of correcting and avoiding them in the future.

Reference must also be made to the provision made for the instruction of uncertificated teachers, pupil-teachers, and probationers in drawing. Speaking generally, the instruction is arranged to meet the requirements of the public-school syllabus in drawing, and it appears to aim at assisting the teachers to teach the subject as well as to give them a clearer conception of the value of drawing as a means of expression, and help them to acquire greater freedom and increased dexterity in the use of chalk, pencil, or brush.

Attention is also given to teachers far removed from the possibility of receiving art instruction, and the problem how best to assist them is receiving a good deal of consideration. Teaching drawing by correspondence at best is unsatisfactory, and the question arises whether it would not be more helpful to those knowing little or nothing of modern methods in art instruction if arrangements were made for an instructor occasionally to visit a district and arrange to give, if necessary after school hours, consecutive lessons for, say, a week at a school which could be conveniently reached by the teachers from a group of schools in the district. Principles and methods could then receive satisfactory attention, and if this were followed up by correspondence classes, teachers would be in a better position to profit by this form of instruction than if the course were taken wholly by correspondence.

*Building Trades.*—All classes mostly attended by apprentices and artisans have been affected more or less in the matter of attendances by the prevailing abnormal conditions, but for the most part a fair average attendance has been maintained at classes in architecture and architectural design, building-construction, principles of carpentry and joinery and cabinetmaking, and satisfactory results have been attained as the result of sound teaching and earnest work by the students.

The practical work in carpentry, joinery, and cabinetmaking, and the related theoretical work dealing with the principles and problems arising therefrom, maintain the high standard which has, speaking generally, been associated with the instruction in these subjects for some years. Design, construction, and finish have received adequate and proportional attention, and excellent examples of woodcraft have been completed at most of the schools, largely due, it is considered, to the fact that the work has been carried out under somewhat similar conditions to those under which most of the old-time woodwork was produced, when the mechanic who constructed the piece of work was responsible for its design, the method of construction, the constructive and decorative details, and the actual manufacture of every part of it. Present-day commercial requirements do not provide for the development of the mechanic's originality, nor do they give much scope for self-expression. He has no personal interest in the design of the article he makes, but in his work carries out, with more or less intelligence, the ideas of others, and therefore has little share in the joy of the creative worker in seeing his own thoughts and ideas take tangible form. The regular attendance, the earnestness in and close application to work, and the general excellence of the workmanship so often observed in the classes under review appear to show that pride is taken in the work in hand, because of the opportunity it affords of self-expression.

While there is much room for improvement in what may be termed the amateur carpentry and cabinetmaking classes, there is also much to commend. The work at the principal centres for the most part is sound in design and construction, and is executed from drawings or from sketches previously made by the students. The work as a whole cannot, strictly speaking, be regarded as technical instruction; but the encouragement of constructive ability and general handiness which leads to the making of articles for use in or adornment of a home cannot be regarded as altogether outside the functions of a technical school. It is worthy of remark that the attendance of women at these classes is not unknown.

*Commercial Work.*—There has been a substantial increase in the number of attendances at classes in subjects related to commercial pursuits, and it may be inferred from this, and the increasing number of inquiries by merchants and others for junior office assistants who have received the principal part of their training at a technical school, that the schools are, speaking generally, providing a course of instruction which suitably equips young persons to take up office-work. The subjects taught are shorthand, typewriting, book-keeping, correspondence and precis-writing, office routine, and at the larger centres accountancy and commercial law, and other subjects required for the higher accountancy examinations. The instruction given is, as far as it goes, thoroughly sound, and the knowledge gained is available for immediate use, as the majority of the classes are in charge of men

who before entering the teaching profession have had a fairly wide business training, or are combining teaching and professional accountancy. There are, however, certain matters in connection with the teaching of some of the subjects of the commercial course in schools outside of the principal centres which appear to call for consideration, but only one will be dealt with in this report, leaving others to future reports.

Except at a few schools little or no serious attention is given to the teaching of typewriting. Pupils sit down to the machine and copy from manuscript or the printed page a set of exercises which may or may not, given a certain amount of practice, lead to the mechanical mastery of the machine, and the ability to write so many words per minute. Little guidance is given in the use of the fingers, or as to which fingers should be used for striking certain keys; and although accuracy and speed, within certain limits, may be acquired by only using two fingers of each hand and the right or left thumb, it is considered that, if the typewriter is to be used intelligently, the keyboard should be known thoroughly, and the position of each key memorized, so that at the end of the second year a student should be able to type correctly at a fair speed from shorthand notes or from manuscript without looking at the keyboard. The practice adopted at some schools of covering the whole keyboard with a piece of thin silk, or providing a set of blank key-caps, or some other device to cover the keys, and placing a diagrammatic representation of the standard keyboard in a conspicuous place so that each student can consult it, if necessary, are means which have been successfully used in teaching typewriting, and tend to obviate the necessity for typists when engaged in work to divide their attention between the keyboard and the manuscript or notes. It is contended that better—that is to say, neater, more accurate, and presentable—work is produced if the typist's whole attention is given to the copy. What is known as the "touch system" of typing appears to be most suitable for teaching in a technical school; it requires more practice at the machine than is usually given, but when once mastered the student can concentrate his or her whole attention on the subject-matter to be typed, as the mechanical part of striking the keys and the correct fingering become almost automatic.

As the deciphering of "confused manuscript" appears to be a not unimportant part of the Public Service Examination for typists, the desirability of giving more attention to this part of the practical work is suggested. In the senior classes correction of errors in English, the correction of phrases, and the addition of omitted words and sentences in confused manuscript, and generally the setting-out of the memorandum or letter on the page, the paragraphing, the division of words at the end of a line, the correction of mechanical errors, and other little details which make or mar the typist's completed work are all matters that should receive attention.

*Domestic Subjects.*—There is little new to report in connection with classes in subjects related to home life. The popularity of dressmaking classes is unabated, and the instruction and the practical work in the majority of the schools appears to be maintained at the high level of excellence which has been a marked feature of the work for some years past. The classes are, however, attended for the most part by those who desire the knowledge for personal and home use; none of the classes have, so far as can be gathered, succeeded in attracting the attention of apprentices and young persons engaged in the trade. This may be largely due to the fact that the advantages of a course of technical instruction have not been specially brought under their notice, and the suggestion is offered that controlling authorities which provide a course in dressmaking including pattern draughting and cutting, dress design, and coat and skirt making might with advantage circularize all dressmaking establishments within their district, giving full particulars of the course of instruction provided. In this connection it is worthy of remark that serious consideration will in the near future have to be given to the question of the training of young women and girls in some of the skilled industries. The trite saying that "women's sphere is the home" has, for very obvious reasons arising out of the war, lost a good deal of its force, inasmuch as a large proportion of them will never have a home of their own, and while it may be true that the avenues to domestic service are sufficiently open and wide to admit all, it is nevertheless true that there are a large number of young women and girls who have a perfectly natural distaste for the drudgery and monotony so often associated with housework, and nothing would induce them to enter upon it. At the present time the possibilities of employment for women as shop-assistants and clerks are many, but there is a steadily increasing number of well-educated young women and girls who must earn their own living and for whom employment of a better type, other than teaching, will have to be found. For many years to come it will be a difficult matter to provide some of the supplies for the markets of the Dominion from the Old World, and as it is to be hoped we shall never again permit hard-earned British wages to pass into the hands of German manufacturers, necessity will compel us to manufacture the needed supplies or go without them. The former of these alternatives appears preferable, and the question arises as to who is to exercise the necessary foresight and the preliminary investigations that will lead to the establishment of new industries and arrange for the entry of women into skilled industries. Private enterprise has done much, but it cannot be expected under present-day economic conditions to continue to act alone in this matter, and as there is no Department of the State empowered with authority to take the initial steps, it will devolve on those who are already in close touch with existing trades; and the hope is expressed that consideration will be given to the problem by controlling authorities and others connected with technical colleges before it reaches the acute stage.

*Engineering.*—Steady progress appears to have been made in the teaching of all branches of engineering, the principal factors contributing to this being the reorganization of schemes of work, a clearer understanding on the part of instructors of the purpose of the instruction, and, generally, the interest taken in this branch of technical training by those immediately concerned. For obvious reasons the extension of facilities in the way of buildings and equipment has for the time being been

limited, but necessities have been provided, and the general tone and purposefulness of the instruction and the work of students, often done under conditions which do not make for the best, leave little to be desired.

*Plumbing.*—Speaking generally, no classes in the technical schools of the Dominion have been more affected by the European war than those dealing with the principles and practice of plumbing. At one centre the whole of the students of the class except one have gone on active service, and all centres have suffered in this direction to a greater or lesser degree. Another disturbing influence has been the irregular attendance of students engaged on country work, and these influences have somewhat militated against the work of the classes as a whole. But in spite of this, sound, purposeful, work has been done. The disabilities under which the classes are conducted, referred to in a previous report, have not, so far as can be gathered, been mitigated, but there are indications that as soon as normal conditions prevail the problems, in so far as they affect the trade and its relation to the technical schools, will receive full consideration.

M. H. BROWNE, } Inspectors of Manual and Technical  
E. C. ISAAC, } Instruction.

The Director of Education, Wellington.

No. 3.

DETAILED TABLES RELATING TO TECHNICAL INSTRUCTION.

TABLE J1.—CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS HELD DURING THE YEAR ENDED 31ST DECEMBER, 1915.

Controlling Authorities, Technical School Boards, and Managers.	Number of Students.			Number of Classes.								
	Free and Compulsory Pupils.	Other Pupils.	Totals.	Art and Art-crafts.	Civil, Mechanical, and Electrical Engineering.	Wood, Iron, and Lead Work.	Experimental and Natural Science and Practical Mathematics.	Horticulture, Wool-sorting, &c.	Domestic Instruction.	Commercial Instruction.	Subjects of General Education (Continuation Classes).	Total Number of Classes.
Auckland Education Board ..	1,149	1,952	3,101	16	9	54	29	17	57	39	69	290
Managers, "Elam" School of Art ..	..	330	330	20	..	..	..	..	..	..	..	20
Hamilton High School Board ..	..	13	13	..	..	..	..	..	1	..	..	1
Auckland University College Council ..	..	93	93	..	12	..	..	..	..	7	..	19
Taranaki Education Board ..	251	730	981	12	21	7	11	28	16	12	25	132
Wanganui Education Board ..	645	1,828	2,473	30	11	17	14	30	47	31	42	222
Palmerston North High School Board ..	164	402	566	7	3	4	4	3	20	11	8	60
Wellington Education Board ..	..	190	190	3	..	3	4	1	1	..	2	14
Wellington Technical School Board ..	439	724	1,163	20	11	8	8	..	9	14	23	93
Petone Technical School Board ..	200	110	310	2	1	2	3	3	4	7	14	36
Managers, Masterton Technical School ..	65	310	375	5	..	2	2	1	9	8	3	30
Hawke's Bay Education Board ..	..	430	430	3	..	2	5	7	6	..	..	23
Napier Technical School Board ..	229	96	325	1	8	2	2	..	7	6	5	31
Managers, Waipawa Technical School ..	..	11	11	..	..	..	..	..	1	..	..	1
Gisborne High School Board ..	..	71	71	..	..	2	..	..	1	2	1	6
Marlborough Education Board ..	..	92	92	2	..	1	2	2	3	..	4	14
Nelson Education Board ..	203	538	741	13	3	10	8	..	21	14	10	79
Grey Education Board ..	79	209	288	2	2	2	1	..	9	2	2	20
Westland Education Board ..	22	34	56	..	..	..	2	..	..	2	2	6
Canterbury College Board of Governors	46	546	592	47	58	..	..	..	..	11	2	118
North Canterbury Education Board ..	..	172	172	..	..	2	3	3	5	..	1	14
Christchurch Technical School Board ..	365	791	1,156	2	9	19	8	3	18	19	15	93
Ashburton Technical School Board ..	138	291	429	2	..	7	6	4	28	15	12	74
Managers, Kaiapoi Technical School ..	..	98	98	..	1	1	..	..	2	..	..	4
Managers, Akaroa Technical School ..	..	24	24	..	..	..	..	..	1	..	..	1
Rangiora High School Board ..	..	113	113	..	..	2	..	..	4	..	..	6
South Canterbury Education Board ..	..	185	185	2	..	..	1	1	3	1	..	8
Timaru Technical School Board ..	140	207	347	5	1	3	1	3	7	9	6	35
Temuka Technical School Board ..	..	167	167	1	..	..	..	3	6	1	..	11
Waimate Technical School Board ..	..	157	157	..	..	1	..	3	6	1	..	11
Managers, Pleasant Point Technical School	..	12	12	..	..	..	..	..	1	..	..	1
Managers, Fairlie Technical School ..	..	70	70	..	..	..	..	1	3	..	..	4
Otago Education Board ..	..	781	781	40	..	..	15	8	1	..	22	86
Dunedin Technical School Board ..	458	819	1,277	1	9	21	11	2	33	18	28	123
Oamaru Technical School Board ..	31	151	182	1	..	2	..	1	5	5	3	17
Managers, Milton Technical School ..	..	60	60	2	..	..	..	2	..	..	..	4
Otago University College Council ..	..	91	91	..	..	..	..	..	18	9	1	28
Southland Education Board ..	..	346	346	7	..	2	4	6	6	..	3	28
Invercargill Technical School Board ..	121	241	362	8	5	3	4	2	9	13	5	49
Gore High School Board ..	4	13	17	..	..	..	..	..	1	2	2	5
Totals for 1915 ..	4,749	13,498	18,247	254	164	179	148	134	369	259	310	1,817
Totals for 1914 ..	4,020	12,582	16,602	295	150	162	153	120	339	277	235	1,731

**TABLE J2A.—RECEIPTS AND EXPENDITURE IN RESPECT OF TECHNICAL CLASSES (INCLUDING TECHNICAL HIGH SCHOOLS) CONDUCTED BY EDUCATION BOARDS AND HIGH SCHOOL BOARDS DURING THE YEAR ENDED 31ST DECEMBER, 1915.**

Controlling Authorities.	Receipts.							Expenditure.					
	Capitation.	Subsidies and Voluntary Contributions.	Buildings and Equipment.	Rent and Material.	Fees.	Other Receipts.	Total Receipts.	Administration, &c.	Salaries of Instructors.	Buildings and Equipment.	Rent and Material.	Other Expenses.	Total Expenditure.
	£	£	£	£	£	£	£	£	£	£	£	£	£
Auckland Education Board..	10,759	90	4,826	245	1,353	1,371	18,644	2,673	7,061	1,499	1,115	236	12,584
Hamilton High School Board	..	..	..	..	10	..	10	..	15	..	4	..	19
Taranaki Education Board..	1,079	529	488	44	226	116	2,482	593	1,588	330	151	42	2,704
Wanganui Education Board	5,286	1,540	155	198	1,017	1,075	9,271	2,040	4,511	583	410	925	8,469
Palmerston North High School Board	938	118	456	43	353	170	2,078	423	1,073	491	99	136	2,222
Wellington Education Board	100	..	..	..	..	332	432	37	393	23	33	5	491
Gisborne High School Board	37	42	..	..	76	18	173	34	68	6	33	24	165
Dannevirke High School Board	..	..	..	5	..	..	5	..	..	..	..	1	1
Hawke's Bay Education Board	89	..	..	13	7	2	111	25	106	..	22	..	153
Marlborough Education Board	51	..	21	2	..	205	270	42	163	14	12	33	264
Nelson Education Board ..	1,595	85	198	..	404	629	2,911	226	2,109	182	308	101	2,926
Grey Education Board ..	592	..	39	237	17	27	912	95	786	282	72	56	1,291
Westland Education Board	26	..	..	..	8	150	184	35	156	..	27	48	260
North Canterbury Education Board	28	..	7	..	54	1	90	2	201	6	..	..	209
Rangiora High School Board	64	48	..	..	55	87	254	50	118	..	27	1	196
South Canterbury Education Board	40	52	5	3	15	..	124	20	147	6	9	..	182
Otago Education Board ..	651	..	20	31	349	485	1,536	633	1,110	10	161	59	1,973
Southland Education Board	275	..	12	8	62	187	544	12	489	..	88	4	593
Gore High School Board ..	34	50	..	..	7	..	91	30	33	..	11	7	81
Totals, 1915 ..	21,653	2,554	6,227	829	4,013	4,855	40,131	6,970	20,127	3,432	2,582	1,678	34,789
Totals, 1914 ..	18,001	2,428	5,494	1,199	4,019	4,100	35,241	5,518	19,093	3,877	2,191	759	31,438

**TABLE J2B.—RECEIPTS AND EXPENDITURE IN RESPECT OF TECHNICAL CLASSES (INCLUDING TECHNICAL HIGH SCHOOLS) CONDUCTED BY TECHNICAL SCHOOL BOARDS AND MANAGERS DURING THE YEAR ENDED 31ST DECEMBER, 1915.**

Technical School Boards and Managers.	Receipts.							Expenditure.					
	Capitation.	Subsidies and Voluntary Contributions.	Buildings and Equipment.	Rent and Material.	Fees.	Other Receipts.	Total Receipts.	Administration, &c.	Salaries of Instructors.	Buildings and Equipment.	Rent and Material.	Other Expenses.	Total Expenditure.
	£	£	£	£	£	£	£	£	£	£	£	£	£
Managers, "Elam" School of Art, Auckland	620	..	..	35	107	293	1,055	675	435	107	75	291	1,583
Wellington Technical School Board	6,266	620	473	748	1,128	689	9,924	1,633	6,292	368	1,097	640	10,030
Petone Technical School Board	627	247	59	21	108	62	1,124	266	700	67	55	76	1,164
Managers, Masterton Technical School	337	588	49	60	250	15	1,290	166	747	120	25	74	1,132
Napier Technical School Board	1,531	294	275	98	90	751	3,039	535	1,465	883	362	130	3,375
Managers, Waipawa Technical School	3	..	..	..	8	..	11	..	9	..	..	5	14
Christchurch Technical School Board	6,236	784	275	540	1,378	1,164	10,377	2,098	5,440	832	1,061	624	10,055
Ashburton Technical School Board	1,325	258	181	121	282	507	2,674	564	944	163	334	136	2,141
Managers, Akaroa Technical School	14	52	..	..	11	12	89	7	26	..	4	13	50
Managers, Kaiapoi Technical School	59	85	8	..	37	129	318	47	125	11	37	69	289
Timaru Technical School Board	514	205	56	18	179	67	1,039	151	713	54	43	60	1,021
Temuka Technical School Board	75	122	10	10	69	19	305	127	165	9	10	20	331
Waimate Technical School Board	70	117	..	13	124	102	426	56	201	..	54	59	370
Managers, Pleasant Point Technical School Board	9	15	..	..	8	2	34	9	22	1	1	2	35
Managers, Fairlie Technical School	32	33	94	7	42	3	211	12	55	105	8	17	197
Dunedin Technical School Board	5,204	2,086	3,843	208	946	278	12,565	1,292	4,000	3,848	572	518	10,230
Oamaru Technical School Board	145	96	..	1	111	..	353	130	182	6	2	12	332
Managers, Milton Technical School	16	14	..	..	62	6	98	22	53	..	10	8	93
Invercargill Technical School Board	2,688	198	1,177	85	319	359	4,826	816	2,201	273	172	180	3,642
Totals, 1915 ..	25,771	5,814	6,500	1,965	5,259	4,458	49,767	8,606	23,775	6,847	3,922	2,934	46,084
Totals, 1914 ..	25,305	8,850	8,891	1,636	5,284	7,717	57,683	5,316	26,208	22,735	3,747	1,368	59,374

TABLE J3.—SUMMARY OF BALANCES AS IN STATEMENTS OF RECEIPTS AND EXPENDITURE OF EDUCATION BOARDS AND HIGH SCHOOL BOARDS (AS CONTROLLING AUTHORITIES), AND OF TECHNICAL SCHOOL BOARDS AND MANAGERS, FOR THE YEAR ENDED 31ST DECEMBER, 1915.

Controlling Authorities.	Balance at Beginning of Year.		Balance at End of Year.	
	Credit.	Debit.	Credit.	Debit.
	£	£	£	£
Auckland Education Board .. .. .	..	4,446	1,614	..
Hamilton High School Board .. .. .	..	..	..	9
Taranaki Education Board .. .. .	..	1,060	..	1,282
Wanganui Education Board .. .. .	..	3,800	..	2,998
Palmerston North High School Board .. .. .	..	18	..	162
Wellington Education Board .. .. .	..	21	..	80
Gisborne High School Board .. .. .	..	81	..	73
Dannevirke High School Board .. .. .	..	4	..	..
Hawke's Bay Education Board .. .. .	287	..	245	..
Marlborough Education Board .. .. .	..	215	..	200
Nelson Education Board .. .. .	..	1,230	..	1,245
Grey Education Board .. .. .	..	388	..	768
Westland Education Board .. .. .	..	97	..	179
North Canterbury Education Board .. .. .	18	..	..	101
Rangiora High School Board .. .. .	35	..	93	..
South Canterbury Education Board .. .. .	104	..	46	..
Otago Education Board .. .. .	..	2,705	..	3,142
Southland Education Board .. .. .	288	..	239	..
Gore High School Board .. .. .	..	29	..	19
	732	14,094	2,237	10,258
<i>Technical School Boards and Managers.</i>				
Managers, "Elam" School of Art .. .. .	..	2,286	..	2,814
Wellington Technical School Board .. .. .	1,637	..	1,531	..
Petone Technical School Board .. .. .	65	..	25	..
Managers, Masterton Technical School .. .. .	..	231	..	64
Napier Technical School Board .. .. .	890	..	554	..
Managers, Waipawa Technical School .. .. .	67	..	64	..
Christchurch Technical School Board .. .. .	473	..	795	..
Ashburton Technical School Board .. .. .	88	..	621	..
Kaiapoi Technical School Board .. .. .	131	..	160	..
Managers, Akaroa Technical School .. .. .	36	..	75	..
Timaru Technical School Board .. .. .	324	..	342	..
Temuka Technical School Board .. .. .	4	..	..	22
Waimate Technical School Board .. .. .	26	..	82	..
Managers, Pleasant Point Technical School .. .. .	66	..	65	..
Managers, Fairlie Technical School .. .. .	14	..	28	..
Dunedin Technical School Board .. .. .	..	2,157	178	..
Oamaru Technical School Board .. .. .	82	..	103	..
Managers, Milton Technical School .. .. .	69	..	74	..
Invercargill Technical School Board .. .. .	..	999	185	..
Totals .. .. .	3,972	5,673	4,882	2,900

TABLE J4.—NUMBER OF STUDENTS IN ATTENDANCE AT CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDED 31ST DECEMBER, 1915.

	Education Districts.													Totals.
	Auckland.	Taranaki.	Wanganui.	Wellington.	Hawke's Bay.	Marlborough.	Nelson.	Grey.	Westland.	North Canterbury.	South Canterbury.	Otago.	Southland.	
Males .. .. .	1,986	665	1,503	1,193	348	27	269	89	9	1,233	302	1,127	339	9,090
Females .. .. .	1,551	316	1,536	845	489	65	472	199	47	1,351	636	1,264	386	9,157
Totals, 1915 .. .. .	3,537	981	3,039	2,038	837	92	741	288	56	2,584	938	2,391	725	18,247
Totals, 1914* .. .. .	2,384	941	2,838	1,852	678	51	681	318	67	2,989	863	2,413	527	16,602



TABLE J5.—OCCUPATIONS OF STUDENTS IN ATTENDANCE AT TECHNICAL CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDED 31ST DECEMBER, 1915.

Domestic pursuits .. .. .	3,768	Painters, plasterers, &c. .. ..	126
Professional pursuits .. .. .	3,285	Printers, &c. .. ..	176
Clerical pursuits .. .. .	1,996	Skilled labourers .. .. .	26
Students .. .. .	2,553	Labourers .. .. .	234
Agricultural pursuits .. .. .	1,524	Seamen .. .. .	62
Employed in shops or warehouses .. .. .	1,307	Engaged in various other trades and in-	
Dressmakers, milliners, &c. .. ..	241	dustries .. .. .	276
Tailors and tailoresses .. .. .	100	Engaged in various public services .. ..	298
Engineers and mechanics .. .. .	699	Occupations not stated .. .. .	467
Electricians .. .. .	214		
Plumbers, metal-workers, &c. .. ..	441		
Woodworkers .. .. .	454		
		Total .. .. .	18,247

TABLE J6.—NUMBER OF STUDENTS TAKING GROUP COURSES AT TECHNICAL CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDED 31ST DECEMBER, 1915.

Controlling Authorities.	Number of Schools.	Courses and Number of Students.					
		Elementary and Higher Commercial and General (Schools giving Courses for Public Examinations).	Practical Mathematics and Science.	Mathematics and Science applied to Trades and Industries.	Domestic Science.	Art and Art-crafts.	Totals.
Auckland Education Board .. .. .	10	690	28	358	134	18	1,228
Managers, "Elam" School of Art .. .. .	1	..	..	..	..	150	150
Auckland University College Council .. .. .	1	..	..	11	..	..	11
Taranaki Education Board .. .. .	1	129	7	64	67	..	267
Wanganui Education Board .. .. .	10	221	..	117	112	42	492
Palmerston North High School Board .. .. .	1	72	3	22	32	19	148
Wellington Education Board .. .. .	4	456	50	249	50	69	874
Managers, Masterton Technical School .. .. .	1	44	8	3	36	2	93
Hawke's Bay Education Board .. .. .	1	76	..	50	27	..	153
Nelson Education Board .. .. .	2	84	6	66	53	50	259
Grey Education Board .. .. .	1	18	..	18	40	..	76
Westland Education Board .. .. .	1	20	..	..	..	..	20
Canterbury College Board of Governors .. .. .	2	..	..	51	..	219	270
North Canterbury Education Board .. .. .	2	187	24	236	196	2	645
South Canterbury Education Board .. .. .	1	93	..	8	11	9	121
Otago Education Board .. .. .	3	334	28	135	32	90	619
Otago University Council .. .. .	2	15	..	..	29	..	44
Southland Education Board .. .. .	1	80	5	29	36	14	164
Gore High School Board .. .. .	1	4	..	..	..	..	4
Totals, 1915 .. .. .	46	2,523	159	1,417	855	684	5,638
Totals, 1914 .. .. .	39	2,117	97	1,378	583	646	4,821

TABLE J7.—NUMBER OF PUPILS RECEIVING FREE EDUCATION UNDER REGULATIONS FOR FREE PLACES AT TECHNICAL CLASSES DURING THE YEAR ENDED 31ST DECEMBER, 1915.

Education District.	At Technical High Schools.			At other Classes.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Auckland .. .. .	220	207	427	529	251	780
Taranaki .. .. .	..	..	..	71	77	148
Wanganui .. .. .	95	65	160	289	242	531
Wellington .. .. .	97	146	243	467	237	704
Hawke's Bay .. .. .	55	42	97	71	50	121
Nelson .. .. .	14	..	14	94	109	203
Grey .. .. .	..	..	..	32	47	79
Hokitika .. .. .	..	..	..	6	16	22
North Canterbury .. .. .	186	189	375	310	239	549
South Canterbury .. .. .	..	..	..	62	78	140
Otago .. .. .	88	180	268	321	168	489
Southland .. .. .	89	96	185	61	64	125
Totals for 1915 .. .. .	844	925	1,769	2,313	1,578	3,891
Totals for 1914 .. .. .	774	900	1,674	2,118	1,466	3,584

TABLE J8.—TECHNICAL HIGH SCHOOLS.—COURSES TAKEN BY STUDENTS DURING 1915.

School.	Courses of Instruction and Number and Sex of Students.												Capitation paid during Year ended 31st December, 1915.
	Industrial.		Agricultural.		Domestic.		Commercial and General.		Art.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	£
Auckland .. ..	136	..	48	..	..	59	57	164	..	..	241	223	4,084
Wanganui .. ..	33	1	14	..	..	11	67	59	..	..	114	71	2,008
Wellington .. ..	49	..	..	..	..	24	55	124	..	2	104	150	2,468
Napier .. ..	34	..	..	..	..	50	24	..	..	..	58	50	932
Westport .. ..	20	..	..	..	..	..	..	..	..	..	20	..	279
Christchurch .. ..	117	..	39	..	..	106	50	109	..	..	206	215	4,336
Dunedin .. ..	58	..	..	..	..	51	38	157	..	..	96	208	2,932
Invercargill .. ..	42	..	14	..	..	26	42	75	..	..	98	101	2,069
Totals, 1915 .. ..	489	1	115	..	..	327	333	688	..	2	937	1,018	19,108
Totals, 1914 .. ..	470	..	91	..	..	313	298	663	1	..	860	979	19,910

TABLE J9.—SUMMARY OF EXPENDITURE BY THE GOVERNMENT ON TECHNICAL INSTRUCTION DURING THE YEAR ENDED 31ST MARCH, 1916.

Capitation—		£	£	£
Classes conducted by {	Education Boards and High School Boards ..	10,789		
	Technical School Boards and Managers ..	10,209		
	University Colleges .. .. .	2,015		
			23,013	
Technical High Schools .. .. .			19,309	
Free education at classes other than those at Technical High Schools ..			7,716	
				50,033
Subsidies on voluntary contributions .. .. .				5,323
Home-science bursaries .. .. .				1,316
Grants—				
Buildings, equipment, and rent .. .. .				7,877
Material .. .. .				2,488
Railway fares, &c.—				
Instructors .. .. .				1,018
Students .. .. .				421
Free pupils .. .. .				2,238
				3,677
Examinations—				
Science and art, Board of Education, London .. .. .			71	
Technological, City and Guilds of London Institute .. .. .			347	
				418
Less recoveries .. .. .				149
				269
Inspectors—				
Salaries .. .. .				967
Travelling-expenses .. .. .				134
				1,101
Total .. .. .				£72,089*

\* This total includes £2,390 from national-endowment revenue.

TABLE J10.—NUMBER OF CANDIDATES WHO PASSED THE SCIENCE EXAMINATIONS OF THE BOARD OF EDUCATION, SOUTH KENSINGTON,<sup>1</sup> AND THE TECHNOLOGICAL EXAMINATIONS OF THE CITY AND GUILDS OF LONDON<sup>2</sup> INSTITUTE, 1915.

Subjects of Examination.	Number of Candidates.	Number of Passes.
<i>Science Subjects.</i>		
Practical geometry and graphics—Lower stage .. .. .	4	1
Practical geometry and graphics—Higher stage .. .. .	1	..
Practical mathematics—Lower stage .. .. .	3	1
Theoretical mechanics (solids)—Lower stage .. .. .	1	..
Theoretical mechanics (fluids)—Lower stage .. .. .	1	1
Machine construction and drawing—Lower stage .. .. .	9	5
Machine construction and drawing—Higher stage .. .. .	3	2
Applied mechanics (materials and structures)—Lower stage .. .. .	21	12
Applied mechanics (machines and hydraulics)—Lower stage .. .. .	6	5
Heat-engines—Lower stage .. .. .	3	1
Building-construction—Lower stage .. .. .	17	8
Building-construction—Higher stage .. .. .	7	3
Magnetism and electricity—Lower stage .. .. .	7	..
Totals, 1915 .. .. .	83	39
Totals, 1914 .. .. .	105	55
<i>Technological Subjects.</i>		
Telegraphy—Grade I .. .. .	2	2
Telephony—Grade I .. .. .	1	1
Electrical engineering—Grade I .. .. .	27	19
Electrical engineering—Grade II (first paper) .. .. .	4	2
Electrical engineering—Grade II (whole examination) .. .. .	1	..
Electrical engineering—Final .. .. .	2	1
Electric wiremen's work—Grade I .. .. .	12	10
Electric wiremen's work—Final .. .. .	1	1
Plumbers' work—Grade I .. .. .	9	9
Principles of leadwork—Grade II .. .. .	7	6
Plumbers' work—Grade II (practical) .. .. .	11	6
Plumbers' work—Grade II (whole examination) .. .. .	7	5
Plumbers' work—Final .. .. .	3	2
Principles of leadwork—Final .. .. .	2	1
Mechanical engineering—Division I, Grade I .. .. .	20	10
Mechanical engineering—Division I, Grade II .. .. .	3	1
Mechanical engineering—Division II, Grade I .. .. .	14	9
Structural engineering—Grade I .. .. .	3	1
Motor-car engineering—Grade I .. .. .	4	4
Carpentry and joinery—Grade I .. .. .	8	6
Carpentry and joinery—Grade II .. .. .	13	9
Carpentry and joinery—Final .. .. .	1	1
Cabinetmaking—Grade I .. .. .	4	4
Cabinetmaking—Final .. .. .	2	2
Builders' quantities—Grade I .. .. .	1	..
Mine-surveying—Grade I .. .. .	3	1
Woodwork—First year .. .. .	15	7
Woodwork—Final .. .. .	6	2
Millinery .. .. .	3	3
Dressmaking .. .. .	10	10
Plain needlework .. .. .	1	..
Plain cookery .. .. .	75	58
Totals, 1915 .. .. .	275	193
Totals, 1914 .. .. .	321	209

TABLE J11.—RETURN OF STAFFS OF TECHNICAL SCHOOLS AND CLASSES FOR THE YEAR ENDED 31ST DECEMBER, 1915 (EXCLUSIVE OF CLERKS, 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 Superintendents.		Remarks.
Auckland Education Board ..	21	£ 325	£700 (Director, Auckland Technical College) ..	..	..
" ..	..	..	£400 (Assistant Director, Auckland Technical College) ..	..	..
Managers, "Elam" School of Art ..	..	..	£400 (Superintendent of Technical Instruction for district)	..	Also Superintendent of Manual Instruction for district.
Taranaki Education Board ..	3	220	£450 (Director and Secretary) ..	..	..
Wanganui Education Board ..	3	250	1 at £375 (Director, New Plymouth Technical College) ..	..	..
" ..	12	320	£375 (Director, Wanganui Technical College) ..	..	..
" ..	..	..	£450 (Director, Northern District) ..	..	Also agricultural instructor (manual).
" ..	..	..	£275 (Assistant Director, Northern District) ..	..	Also wood instructor (manual).
" ..	..	..	£325 (Director, Southern District) ..	..	..
" ..	..	..	£350 (Director, Central District) ..	..	Also agricultural instructor (manual).
Palmerston North High School Board ..	..	225	£325 (Director, Palmerston North Technical School)	..	..
Wellington Technical School Board ..	2	340	£700 (Director and Secretary) ..	..	..
Petone Technical School Board ..	24	..	£150 (Director and Secretary) ..	..	Also on staff of Petone District High School (salary, £270).
Managers, Masterton Technical School ..	..	..	£100 (Director and Secretary) ..	..	Also on staff of Masterton District High School (salary, £320).
Hawke's Bay Education Board ..	3	151	£475 (Director of Technical Instruction for district)	..	Also Director of Manual Instruction for district.
Napier Technical School Board ..	..	..	£370 (Director and Secretary) ..	..	..
Nelson Education Board ..	6	245	£375 (Director, Nelson Technical School)	..	..
" ..	3	150	£240 (Director, Westport Technical School)	..	..
" ..	1	130	£25 (Acting Director) ..	..	Also instructor, manual and technical classes.
Grey Education Board ..	5	200	£600 (Director and Secretary) ..	..	Also Secretary to Education Board (salary, £260).
Christchurch Technical School Board ..	19	375	£350 (Director and Secretary) ..	..	Also Director of Manual Training Classes (salary, £100).
Ashburton Technical School Board ..	..	180	£550 (Director, School of Art) ..	..	..
Canterbury College Board of Governors ..	5	250	£368 (Director) ..	..	..
Timaru Technical School Board ..	..	..	£600 (Director) ..	..	Also Director of Manual Instruction for district.
Dunedin Technical School Board ..	15	310	£100 (Director and Secretary) ..	..	..
Oamaru Technical School Board ..	..	..	£400 (Director, School of Art)	..	..
Otago Education Board ..	3	200	£450 (Director) ..	..	..
Invercargill Technical School Board ..	8	285	..	..	..

## APPENDIX.

### TECHNICAL INSTRUCTION IN THE SEVERAL EDUCATION DISTRICTS.

#### AUCKLAND.

##### EXTRACT FROM THE REPORT OF THE EDUCATION BOARD.

Farmers' classes were conducted at Matamata, Mamaku, Netherton, Clevedon, Drury, and Patumahoe. The classes at Matamata were particularly successful, and experimental work is being at present carried out on Matamata farms under the supervision of Mr. Hadfield. A strong endeavour will be made to establish farmers' classes in various centres during 1916. Technical and continuation classes have been held throughout the year at the technical schools at Auckland, Whangarei, Devonport, Waihi, Thames, Pukekohe, Te Aroha, Te Kopuru, and Dargaville, and excepting those at Pukekohe these classes were very successful. Classes started late in the year at Hamilton were well attended, and gave strong evidence that the facilities provided were appreciated by the residents of that town. Attendance at technical and continuation classes has been made compulsory for both boys and girls between fourteen and seventeen years at Devonport, Pukekohe, Te Kopuru, and Dargaville, and compulsory for boys only at Thames, Waihi, and Hamilton. Like many other institutions, the Seddon Memorial Technical College was considerably affected by the war. Between four and five hundred past and present students volunteered for active service. Three old students specially distinguished themselves—viz., Cyril A. G. Bassett, who obtained the Victoria Cross, Robert Tilsley, and Kenneth W. Watson, both of whom were awarded Distinguished Conduct Medals. In the Technical High School the number of individual pupils was 464, as against 397 in 1914. The total number of individual students in all classes, day and evening, was 1915, which was 102 less than in the previous year. This falling-off was largely accounted for by male students of eighteen to twenty-five years of age being away on active service.

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

*Technical High School.*—In spite of the war the number of students enrolled last year was greater than in the previous year, having increased from 397 to 464. The numbers taking the various courses were as follows: Agriculture, 47; business training, 227; domestic science, 55; science and technological, 118; engineering, 17.

The agricultural course: It was in this course that the greatest increase took place, the number of boys enrolled being forty-seven, as compared with nineteen in 1914. In addition to the usual theoretical, laboratory, and workshop subjects, considerable attention was given to the practical side of farming, full use being made of the paddock at Otahuhu loaned by the Auckland Agricultural and Pastoral Association. In addition to this practical work, the students paid various visits of inspection to farms, orchards, &c., and two farm camps were held during the year. The first, which was held for a week in September on Mr. W. Hill's farm, "Titi," Mauku, was so successful that another was held for a fortnight in November on Mr. Reynolds's farm, "Trecarne," Leamington, Cambridge. At both of these camps the owners of the farms did their utmost to provide practical instruction for the boys, such instruction including milking (hand and machine), shearing, stock-judging, fencing, drain-laying, farm tillage, &c., and the Instructor, Mr. A. V. Donnan, as well as the students, were most enthusiastic over the treatment received from the farm-owners above mentioned. I should like to pay a special tribute to the energy and enthusiasm shown by Mr. Donnan during the year. The College suffered a very severe loss when he obtained leave of absence at the end of the session to join the Expeditionary Forces. During his absence the agricultural classes will be taken by Mr. F. E. Ward, a diplomé of the Hawkesbury Agricultural College.

The business-training course still continues to be the most popular course, the number of students enrolled in 1915 being fifty-seven boys and 170 girls. The work done during the year was of the same high standard as that of previous years, and the demand for students who had taken the course was far greater than the supply. It is to be regretted that a larger percentage of students do not remain for the third year's course, but whilst students who have taken two, and even one, year's instruction in the College are able to command such good wages this state of affairs is not likely to improve very much. Two students in the third year's course passed the examination in practical mercantile book-keeping held under the auspices of the New Zealand University.

The number of students who took the domestic-science course was fifty-five, as against forty-nine in the previous year. So far as the practical subjects are concerned, whilst fairly good accommodation is provided in the College for the teaching of cookery, needlework, dressmaking, and millinery, the girls are very much handicapped by not having a house attached to the College for practice in housewifery. A modern laundry is also much needed. Last year, by the courtesy of the Matron in charge of the Campbell Crèche, second-year students attended the crèche to receive practical instruction in the feeding and care of infants. The introduction of this work into the curriculum proved most popular with the girls, and the training which they received was most valuable.

The science and technological course, which is designed for boys intending to take up a trade or profession, was attended by 118 pupils, as against 120 in the previous year, the work done being well up to the average of previous years.

The number in attendance at the engineering course last year was seventeen, a decrease of three. Students attending this course have previously put in two years at the College in the science and technological course, and are preparing to take up civil, mechanical, or electrical engineering as a profession. With the view of entering one of the engineering branches of the Public Service two students passed the Public Service Senior Examination, whilst another student passed in two subjects. On the whole the work done in the Technical High School during the year was very satisfactory, and the tone of the school was excellent. In addition to the successes in external examinations mentioned above, ten students passed the Public Service Entrance Examination, three the Intermediate Examination (non-competitive), and ninety-five were awarded senior free places by the Education Department, whilst two students obtained partial passes in the Matriculation Examination of the University of New Zealand, and fourteen successes were obtained in the examinations of the City and Guilds of London Institute, and two in the examinations of the Board of Education, South Kensington, London.

Shortly after the commencement of the session a brass band in connection with the Senior Cadets was inaugurated, and excellent progress was made under the direction of Bandmaster Lieutenant F. E. Mason (a member of the College staff). With the growth of the Technical High School lack of accommodation in the College is each year more and more felt, particularly in the matter of an assembly-hall, gymnasium, dining-room, and library.

*Evening and Special Day Classes.*—The war had a considerable influence upon the attendance of students at these classes last year, the number having decreased from 1,620 to 1,451. This was due largely to the non-attendance of the male students between the ages of eighteen and twenty-five years who were away on military service. Since the war has broken out between four and five hundred past and present students of the College have joined the colours. In addition to the trade classes there continued to be an increased demand for instruction to enable students to pass the various public examinations, such as Matriculation, Public Service Entrance, Public Service Senior, Pharmacy, Teachers' C and D, &c. In the external examinations the record of the evening students was quite up to that of previous years. Fifty-five students passed the various examinations of the City and Guilds of London Institute, and thirteen the examinations of the Board of Education, South Kensington, London; in the Public Service Senior Examinations two students passed in five or more subjects, two in four subjects, five in three subjects, and five in two subjects, whilst three passed the Public Service Entrance Examination; eight students were successful in the Matriculation Examination of the University of New Zealand, and in the examinations of the Pharmacy Board five passed the A examination and two the B examination; six students passed the Intermediate Examination of the Education Department, and sixty-four obtained senior free places; two students completed the teachers' C examination, whilst three passed in five subjects, three in four subjects, eight in three subjects, and twelve in two subjects; twenty-four students were successful in passing the teachers' D examination.

From the number of students who availed themselves of the continuation classes to enable them to pass the Sixth Standard it would seem that there are still a large number of pupils leaving the public schools without this qualification. Last year there were 121 students in attendance at these classes, of which seventy-nine sat for examination: of these, forty-five obtained certificates of proficiency and three certificates of competency.

As in past years, the teachers of the Auckland Training College received instruction from the staff of the Technical College in the following subjects: Agriculture, art, domestic science, and manual training (woodwork).

The completion of the College by the addition of two more stories is urgently required, and, whilst the Technical High School is considerably cramped for lack of room, it would be quite impossible to carry on the evening classes were it not for the use of other external buildings—viz., the old Technical School building, Rutland Street; the Normal School, Wellesley Street; and the carpenters' shop, St. Paul's Street. It is to be hoped that as soon as the finances of the country will permit the Government will find the necessary money to complete the College. In conclusion, I wish to place on record my deep appreciation of the energetic and enthusiastic efforts of my staff, to whom the greatest credit is due for another successful year's work in the College.

GEORGE GEORGE, Director.

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

The new building continues to give us complete satisfaction, and were it necessary again to build a new school I do not know how the present one could be improved for our purpose. In spite of the large amount of glass used in windows on all floors of the building and the unusually hot weather, even for Auckland, experienced during December, the rooms have always been well ventilated and pleasant to work in. The attendances have been, considering the trying times, very good. In the first two terms of the year the attendance was 1,254 better than in the first two terms of 1914, and had it not been for the excitement of the Queen Carnival during the last term, when a considerable number of our adult students gave up all their work in order to help the patriotic cause, the attendance in the last term would have been much larger. As it is the total attendances of the year are about a hundred better than the total attendances of 1914, which I think, under the circumstances, may be looked upon as very satisfactory.

The war has, of course, affected our school, as it has all similar institutions. During the last year twenty-eight of our students have enlisted and gone to the front, and as, of course, these students are adult and experienced workers, our advanced work has suffered accordingly, but we are all proud to think that our school is doing its part in helping to provide men and nurses for the needs of the Empire.

During the year Mr. E. Fristrom resigned his position as instructor of the life and antique classes, and his place was taken by Mr. Robert Proctor, whose work is well known in Europe as well as in the Dominion. The classes in applied art have largely increased during the year, and will, I believe, grow still more in the coming year, as the instructor's good work is becoming known in Auckland. His classes have produced a large amount of work in all branches of a very high order. The classes in design and its application to stencilling, decoration, and posters are becoming increasingly popular. One of our smaller rooms was fitted up early in the year with all appliances for the production of etchings on copper and zinc and the printing of the same, and an excellent start was made with a highly interested class. A photographic studio has also just been added on a portion of the flat roof which was not required in connection with the open-air studio for the painting classes. I have had a large number of applications lately to have photography taught, and anticipate a very popular and well-attended class.

Our annual exhibition of students' works, held at the beginning of December, was well attended, and I was very pleased that the Minister of Education, the Hon. J. A. Hanan, and Mr. M. H. Browne, Inspector of Technical Education, were both in Auckland at the time and were able to pay visits to the exhibition.

E. W. PAYTON, Director.

#### EXTRACT FROM THE REPORT OF THE CONTROLLING AUTHORITY OF THE HAMILTON TECHNICAL CLASSES.

The only evening technical class conducted by the High School Board was one in cookery, attended by about ten students. Classes in woodwork, dressmaking, and plumbing were offered, but sufficient students were not forthcoming to warrant their establishment. Towards the end of the year the Auckland Education Board introduced in Hamilton compulsory attendance at certain evening continuation classes, and the High School Board sanctioned the use of one of the rooms at the High School for instruction in woodwork. My Board is of the opinion that no system of continuation classes is likely to meet with success till legislation is introduced making it obligatory for employers to give their apprentices the opportunity of securing technical instruction during ordinary working-hours.

R. ENGLISH, Secretary.

#### TARANAKI.

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

During the year various classes were held at New Plymouth, Stratford, and Inglewood, while classes for agriculture instruction were held at the following centres: Omata, Oakura, Okato, Warea, Pungarehu, Oaonui, Opunake, Pihama, Te Kiri, Awatuna, Kent Road, Egmont Village, Bell Block, Waitara Road, Tikorangi, Lepperton, Waiongona, Norfolk Road, Tariki, Midhirst, Ngaere, Pembroke Road, Beaconsfield Road, Kahouri Bridge, Kaimiro, Durham Road, Tuna, Hurford Road. Much good work was done among the farmers, and many expressions of appreciation have reached me. Many of the farmers are carrying out experiments suggested by the instructor, Mr. Sergel. The competition instituted among the sons of farmers produced some keen rivalry.

*New Plymouth Technical School.*—During the year the day classes more than doubled in numbers, and the Whiteley Hall was hired as a class-room for some of the students of the engineering class. The engineering workshop proved far too small, and the work was much retarded thereby. Increased accommodation is absolutely imperative. As I mentioned in last year's report, there is a great necessity for a closer relation between technical schools and the various trades. In my opinion the whole future of technical work in this country depends on the steps taken in the immediate future to secure some adequate allowance for time spent in taking a technical course. The commercial class was a very strong one, and good work was done. All our senior students secured good positions. The domestic class was not so large as it ought to have been. The disinclination of girls to take up domestic work is so very marked that it will soon become a very serious problem. The natural result will be a lowering of the standard of home management, which means a corresponding lowering of the efficiency of the nation. The agriculture class was a small one, and was hampered by lack of implements and horses, but notwithstanding this some very fine work was done on the plot at Fitzroy. A large number of the day-class students travel by train, and I have to thank the railway officials for the kindness and care they have bestowed on these students.

The outstanding feature of the year was the bringing into operation of regulations for compulsory attendance at evening classes. The results were very satisfactory, although a number of parents omitted to register their children, an omission for which there appears to be no penalty. At the various examinations held during the year students were successful as follows: City and Guilds—Electrical engineering (Grade 1), seven students passed; dressmaking, one passed; matriculation, one partial pass; Public Service Senior, one student passed in three subjects and one in four; Public Service Entrance, four passed.

I wish to tender my thanks to the members of the staff, who worked harmoniously and well for the good of the school.

At Stratford classes under Mr. Tyrer as Supervisor were conducted in the following subjects: Latin, English, shorthand, mathematics, dressmaking, drawing, and plumbing. At this centre, as elsewhere, the volunteering for active service of so many young fellows caused the classes to be smaller than they otherwise would have been. During the year the Stratford Borough Council voted a sum of £10 towards the funds of the classes.

At Inglewood classes under Mr. Stratford as Supervisor were conducted in the following subjects: First aid and ambulance, and dressmaking.

ALFRED GRAY, Director.

## WANGANUI.

### EXTRACT FROM THE REPORT OF THE EDUCATION BOARD.

The Committee appointed at the beginning of 1915, consisting of three members of the Board and the Chairman, and known as the Manual and Technical Instruction Committee, met regularly throughout the year. By means of monthly reports submitted by Supervisors, Directors, and instructors, and conferences with the agricultural instructors and supervisors, the Committee was kept in close touch with the progress of this branch of education in the district. Since Mr. Braik's death Mr. Swanger has filled the position of Director of Technical Instruction. The report submitted by him will be found to be of interest. It is pleasing to note that sound progress continues to be made along the lines laid down by Mr. Braik, and the credit for this is largely due to the efforts of the capable staff of Supervisors, Directors, and instructors, to whom I take this opportunity of conveying the Board's thanks. The Board has also been fortunate in retaining the interest of the various public bodies and private individuals who have, year after year, rendered assistance by making donations in cash, by placing land, buildings, and stock at the Board's disposal, or by acting as members of the respective Technical School Committees.

### EXTRACT FROM THE REPORT OF THE SECRETARY TO THE EDUCATION BOARD.

At the close of the year there were twenty-six Supervisors, Directors, and instructors on the permanent staff. Mr. G. J. Park, Bachel. Com., was appointed Director of the Wanganui Technical College in place of Mr. W. A. Armour, who left to take up the position of headmaster of the Napier Boys' High School. The organization under which the district has been worked for several years past remains unaltered. It is a satisfactory one, but with the alteration in the boundaries of the district which will take place in August a change in organization will be necessary.

Technical and continuation classes were held at thirty-five centres. The enrolments totalled 5,517, the number of individual students being 2,628. These figures show an increase of 181 and 328 respectively compared with the numbers at the end of 1914. During the current year the work of establishing classes in the Main Trunk district is being taken in hand, and it is anticipated that Mangaweka, Ohakune, Rangataua, and Raetihi will shortly be numbered amongst the centres at which successful classes are being carried on.

Compulsory classes under section 124 of the Act continue at Wanganui, Hawera, and Eltham, the number of pupils in attendance being 259. These classes have passed the experimental stage, and it is anticipated that other centres will apply to have the compulsory regulations brought into operation. The success which has attended the establishment of compulsory classes is in no small measure due to the tact and consideration displayed by the Directors of the respective schools. The majority of the students quickly settle down to work, realizing that their attendance at a technical school must ultimately result in benefit to themselves.

The Wanganui Technical College is progressing along right lines. It is pleasing to note that the present year has commenced with a record enrolment, the numbers attending agriculture, engineering, and domestic courses showing a marked increase. The Board was successful in securing three sections of land adjoining the engineering workshop, on which will eventually be erected accommodation for cookery and laundry-work classes. Some 1½ acres were added to the playing-fields. The opening of a boys' hostel is an important forward step, and has been the means of attracting to the College boys from as far north as Whangarei. The equipment of the College was considerably augmented during the year, and, thanks to the interest shown by a local resident, it was found possible to purchase about twenty-five new typewriters.

Contributions received by the Board during the year in aid of manual and technical instruction totalled £870 13s. 4d. To the following, as well as to numerous private subscribers, the thanks of the Board are due for contributions, without which it would be impossible to carry on the work at many of the smaller centres: Wanganui, Eltham, Feilding, and Hawera Borough Councils; Wanganui, Waitotara, Rangitikei, Manawatu, Hawera, Kitea, Eltham, and Oroua County Councils; Wanganui Chamber of Commerce; Wanganui Furniture-makers' Association; Wanganui Builders' Association; Feilding Agricultural and Pastoral Association; farmers' unions or clubs at Feilding, Mangatoki, Alton, Ararata, Maxwell, Normanby, Whenuakura, Rowan, Mokoia, Kapuni, and Riverlea. The thanks of the Board are also due to those ladies and gentlemen who have acted on advisory committees, and to others who have rendered assistance during the past year. I desire to express my thanks to the District Supervisors, Directors, and instructors for their ready response to the demands of the office at all times.

W. H. SWANGER, Secretary.



## EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE NORTHERN DISTRICT.

There was a decided increase in the number of individual students who attended the classes. These totalled 291, as against 210 for 1914. This total included twenty-three junior free pupils, eight senior free pupils, forty-five compulsory students, and 215 other students. Of the junior-free-place pupils eighteen were in their first year and five in their second year. All senior-free-place pupils were in their first year.

We are indebted to the Hawera County Council and the Hawera Borough Council for donations of £20 each.

The following shows the hour attendances made in the most important subjects: English, 1,196; arithmetic, 1,196; book-keeping, 1,548; shorthand and typewriting, 1,928; drawing and painting, 998; cookery, 270; dressmaking, 622; first-aid and ambulance, 1,118. The progress made has been such that the time has come when the school should have a Director devoting more time to the work and taking a greater share in the teaching. There is this year no reason to complain of the behaviour of the free and compulsory pupils. In nearly all cases it has been good, and the work of the various instructors has been more pleasant in consequence. In a good many cases, however, pupils have failed to provide themselves with books and pens. Others bring writing-pads from which they remove the leaves as soon as they are used. The pupil has therefore no record of the work he has done. Next year it is proposed to supply books and pens to the pupils at cost. These will be collected at the close of each lesson and kept locked in a cupboard.

*Eltham Technical School.*—The 31st October, 1915, brought to a close another year's work. On the whole the compulsory classes have worked well, but the weaknesses noted below are difficulties to be overcome locally: (1.) The Board's regulations do not require girls to attend night classes. (2.) In small centres such as Eltham, where there is only a very limited population, separate classes for boys in the evenings and girls in the afternoon cannot, for financial and other reasons, be successfully established. (3.) Some parents, and the girls themselves, objected to an afternoon class being formed to interfere with their weekly half-holiday. (4.) Most girls affected are in town positions learning dressmaking, and dressmaking was the only afternoon class established at the Technical School. Cookery was suggested, but, apart from the difficulty of securing an instructor, the numbers offering were insufficient to form a class. (5.) The number of free classes likely to form is limited, and some boys are thereby compelled to attend a class they do not want, simply because they must attend for two hours on two nights a week to fulfil their obligations under the Act. Such cases occurred here before it was possible to form another sufficiently payable class. Free writing-material, &c., would greatly lessen the burden of instructors, who have frequently to deal with delinquents in this respect. The motor engineering classes formed proved very popular, and also a source of much revenue to the school. It was unfortunate that it was impossible, through the removal of a capable instructor, to continue the classes. Donations of £5 each were again received from the Borough and County Councils, and in the future will probably be made a regular grant. The behaviour and attendance of most of the pupils was, on the whole, entirely satisfactory. The enrolments for the year were as follows: English, 40; arithmetic, 40; motor engineering (junior), 34; motor engineering (senior), 24; dressmaking, 10: total, 148.

At Patea there was but one class held during 1915: this was in dressmaking, and the roll number was 22.

The progress of the classes for farmers reported for 1914 was continued throughout the past year. Past recommendations and demonstrations have borne such fruit that now we can definitely say that the work undertaken has been at least of permanent district value. Since the new season began in May we have directly given advice on the manurial and cropping operations of over three hundred farmers. According to the reports of farmers themselves the results of the new methods have been remarkable, easily doubling the previous carrying-capacity of farm or paddock. We have the unqualified support of the Agricultural and Pastoral Association, local farmers' unions, and individual farmers. Instruction has been given to farmers in the heavier lands towards Wanganui, as well as in the lighter lands round Hawera. The greatest success has been met with in connection with improved methods of the putting-down of pastures, and again in the after-treatment of these, both of which sets of operations have been reduced to a system suited to local soil and climate, yet sufficiently flexible to allow of accommodation to all ordinary soil variations. The following is a list of centres at which classes were held, showing also the number of students in attendance: Manutahi (20), Hawera (29), Kaponga (22), Tokaora and Inaha (25), Mokoia and Whakamara (28), Maxwell (16), Whenuakura (21), Kapuni (21), Riverlea (20), Normanby (20), Rowan (21), Alton (19), Mangatoki (50), Ararata (9), Hawera orchard work (16); total, 337. An organization of representative farmers has been formed to control the development of classes, and to arrange for the formation of new centres of instruction. Members take a keen interest in the development of primary agricultural instruction, and there is a growing demand for vocational training in agriculture of the same nature as, but of a higher grade than, that at present given in the district high school rural course, where the general instruction is considered to be of too composite a nature to suit best the needs of the coming farmer. Added to a good grounding in English and in book-keeping, the farmers would like to see the truly rural work at present taken at our district high schools extended until it was taken on each day of the week. All our work with farmers shows that there should be no break in the instruction from the primary school to the farm. The instruction should be in the same hands, and should merely be amplified with each grade.

## EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE CENTRAL DISTRICT.

*Taihape Technical School.*—Classes in the following subjects were held during the year: Arithmetic, 19 pupils; English, 19; dressmaking, 16; woodwork, 8; shorthand and type-writing, 11. With the exception of the class in woodwork the attendance was far from satisfactory.

*Marton Technical School.*—On the whole 1915 was a fairly successful year. A few factors detracted somewhat from complete success, chief of which factors was the holding of the Patriotic Carnival. The series of concerts and other functions so reduced the attendance in some classes that these classes had to be discontinued. Classes as follows were held: Dressmaking, 11; motor engineering, 8; woodwork, 4; book-keeping, 19; shorthand, 24; typewriting, 24; English, 19; arithmetic, 19; Latin, 3; mathematics, 3; ambulance, 17; hygiene, 18: total, 169: total individual students, 81. The grounds are not in as satisfactory condition as is desired. The removal of the high school classes to the public school has rendered the attention to the grounds much more difficult. When the proposed alterations are complete the surroundings of the school should be a credit to the town. Thanks to generous donations from local bodies, the Rangitikei County Council and the Borough Council, and from Dr. Scott and others, the Committee have been enabled not only to pay off the debt on the school, but also to pay for the installation of the sewerage, to purchase four typewriters, to replace two old sewing-machines by new ones, and to carry out some minor improvements to the school. A small credit balance is still in hand. The Committee decided to admit pupils of the District High School free to the classes provided the Director could see his way to make the classes financial. This refers only to classes of the commercial course not taken, or only partially taken, at the District High School. From the point of view of the Technical School the removal of the district high school classes to the public school has made the management much more difficult, and this has somewhat detracted from the success of classes. The Committee desire to extend the classes to surrounding small centres, and to form farmers' classes. Marton is the most convenient centre on the whole line, and by making Marton a centre of the surrounding district in the matter of classes it is hoped to secure the permanent residence of a number of first-class instructors. Marton has suffered considerably in not having available first-class instructors in some of the subjects that could be taken.

## EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE WANGANUI SUBURBAN DISTRICT.

Though the classes at Wanganui East have not been as large as in previous years the work has gone on quite satisfactorily. The conduct of the classes has much improved, and on no occasion has a complaint reached my ears. I paid two formal visits to the classes, and my own observations corroborate the remarks of the Director. With regard to the smaller attendance it may be remarked that the extension of the tramway system has enabled students to enter the Technical College classes, this also having some effect on the enrolments at the suburban class. The classes closed down on the 2nd December, having run for twelve weeks. The attendance was as follows: English and arithmetic, 14·3; book-keeping, 10·4; proficiency subjects, 7. The attendance at these classes is less than in previous years. This is explained partly by the fact that more than the usual number of students have left the district during the year, and partly by the fact that some undesirable pupils have been dropped. The classes have in previous years had to contend against a certain element of unruliness, and indisposition to conform to the rules necessary for their successful conduct. This year this element has been eliminated by removing certain students, whose attendances were neither conducive to profit to themselves nor of advantage to the classes. Close personal supervision has been exercised over the remainder, with the result that the classes have been orderly and attentive, and this means that the students have made satisfactory progress. It is hoped in future sessions to build up the numbers of the classes, and still maintain the satisfactory tone. The expenses of the classes have been kept down to a minimum, the instructors having been careful in the use of apparatus and equipment. The order and attention has been satisfactory.

## EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE SOUTHERN DISTRICT.

The total enrolments for the district were 1,236, and the numbers of individual students 569. There were thirty-five senior and seventy-three junior free-place students on the rolls.

*Feilding Technical School.*—The following classes have been held during the year: English, arithmetic, shorthand, typing, elocution, book-keeping, commercial and industrial history, ladies' tailoring, motor engineering, electric wiring, agriculture, home nursing, dressmaking, cookery, art, art needlework, woodwork, wood-carving and metal-work, plumbing, Latin, millinery, vocal music, and classes for teachers in art, agriculture, singing, hygiene, and woodwork. The attendance has, on the whole, been very satisfactory, and good work has been done by both instructors and students. Commercial subjects and dressmaking account for a large proportion of the students. The day course is divided into (a) domestic, (b) commercial, (c) agricultural. Exceptionally good work has been done by the students taking these courses. In the agricultural course, apart from the principles of agriculture, the boys have all handled horses in the process of ploughing, harrowing, disking, and drilling, and have received instruction in farm carpentry and in reinforced-concrete work. Under the auspices of the St. John Ambulance Association a strong home-nursing division has been formed. During the year a course consisting of the six undermentioned lectures was run: "France and the French," by Mr. C. W. Wilson; "Luminiferous Ether," by Mr. J. W. Poynton; "How New Zealand History is Unearthed," by Hon. Dr. McNab; "Records in Prose and Rhyme of a Voyage round the World," by Rev. Gibson Smith; "How Man constructs his World," by Professor Hunter; and "The Real America," by Mr. C. H. Poole, M.P.

Two instructors and twelve students have enlisted for service at the front. The students have undertaken to write at least one hundred letters per month to soldiers at the front who may not be in receipt of any correspondence. The football club entered a team for the third-class championship, and went through the season without defeat, winning the Broome Shield. A troop of Girl Peace Scouts has been formed. Successful classes were conducted at the following attached centres: Apiti, Pohangina, Rongotea, Rangiwahia, Makino, Kiwitea, Kimbolton, Valley Road, Mangarimu, Halcombe, Bunnythorpe, and Ashhurst.

Thanks are due to the local bodies, the Chamber of Commerce, and the Agricultural and Pastoral Association, the Farmers' Union, and private subscribers, for donations received during the year.

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

During the year there have been many changes in the staff. The Principal, Mr. W. A. Armour, resigned his position in July last to take charge of the Napier Boys' High School. Mr. Armour joined the College in 1911, and by great energy and skill he succeeded in putting a new establishment on a firm footing. The school in all departments owes a great deal to Mr. Armour's organizing and directing ability. The numerous changes in the staff naturally interfered somewhat with the work, but in the present year we are fortunate in having found efficient substitutes for those who have left. The work is going on very smoothly, and we expect the results will be quite up to the high standard that has been maintained in the past. We therefore look forward confidently to the future, believing that the school has every prospect of being a credit to our town and district. It provides a type of education that meets the requirements of the times, and we trust that it will receive from parents and employers that support and encouragement without which it cannot succeed.

The total enrolments during 1915 were 194 in the Technical High School and 1,679 in the evening classes, the individual students in the latter being counted more than once, however, according to the number of classes taken. The attendance at the Technical High School was about the same as in 1914, and towards the end of the year the numbers fell away to 125. As the year opened with 169 on the roll, the school may be considered to have had a lean year. This may be attributed partly to the war causing the boys to be keenly sought after to fill the places of men at the front, partly to the numerous changes in the staff, and partly to the inevitable loss of boys and girls in the third term, which is a feature of most of our technical colleges. In October and November the produce of the farms begins to move, and there is an active demand for girls and boys for office and workshop.

The war has affected the work in some departments of the evening classes of the College to a serious extent. The applied art classes have had to be discontinued. The number of students fell off very much towards the end of the year, and as the instructor volunteered for active service it was felt to be undesirable to continue the classes. In the art department the students were not at all numerous, and the instructor's evenings have been reduced to three. The increased attendance in the Technical High School, however, enabled us profitably to employ our art instructor. The plumbing classes were also very poorly attended, the enlistment of many apprentices being no doubt the primary cause. The same cause reduced the attendances in the engineering classes. The classes in dressmaking were well attended in the early part of the year, but fell off towards the end. In cookery the attendance was not large at any time. Very large and successful classes in first aid, both for men and for women, and in home nursing for women were conducted. The war no doubt put a premium on such knowledge, and encouraged people to take up the work. The Wellington centre of the St. John Ambulance Association, however, did not view the classes with favour, and there was a long delay in issuing the certificates to the students who passed the qualifying examinations. New classes in electric wiring and magnetism and electricity were commenced about the middle of the year, and were fairly well attended.

The students of the compulsory classes were required to take English and arithmetic, in which most of them certainly require instruction, but since they think these subjects do not bear upon their trades they are decidedly averse to attending these classes. The Department's regulations, however, do not make these classes compulsory, and it is proposed next year to allow compulsory students to select their own subjects and evenings. This should result in better attendances and better work. The compulsory students form by far the larger portion of the students on the school roll. Many a student comes unwillingly, but once here he finds he can choose the subjects most to his liking, and get instruction free of charge. The work done in the classes was, on the whole, satisfactory. Where it is not satisfactory it is not always the students' fault, but partly our own through our inability for financial reasons to make our classes smaller. I believe that the compulsory classes are here to stay, for other districts are following our example. The chief aim now should be so to raise the standard of the work done in them that the students themselves will realize the value of time given to self-improvement, because they will be able after a complete course of instruction to double or treble their earning-power. In achieving this employers of labour may help themselves, the young people, and their town by encouraging young employees to attend the Technical College. There are many faults in our work we know, and we earnestly wish to remove them, but a technical college is more intimately related to the industries and life of the people than any other of our educational institutions, and so it stands in greater need of public assistance. This does not mean a request for more monetary assistance, but rather for help and guidance in shaping the instruction given to apprentices and others. In this respect the master builders give us valuable help. They not only give us a substantial donation to our funds, but their representative on the College Committee visits the carpentry and joinery classes at work and gives valuable advice as to the course

of instruction. The result is that the classes for builders are doing good work. Much more could in this way, I believe, be done to the advantage of our own industries. Wanganui has undoubtedly a promising future. It will need, however, to make the most of its advantages by developing the industries for which it is most suited by situation and natural endowment. There is need of skill in all industries, and we think the Technical College could do something to supply that skill. We believe it would be wise to consider the advisability of inviting employers to sit on committees that would guide the instruction or make improvements in the courses that affect their industry. Our largest classes are undoubtedly the commercial classes, and we should be glad to see the Chamber of Commerce sending representatives to examine the work done, and to suggest in what way the classes may better meet the requirements of the business community. If the experiment is successful, and we have no doubt it would be, an extension of the principle to other courses could be made.

*Technical High School.*—The general or secondary course was, as in previous years, the best attended. Despite changes in the staff, the results of the examinations were decidedly above the average for secondary classes. This is largely attributed to the thirty-hour week for which the College is open. In the commercial course the classes were well attended, and in the Board's book-keeping examinations practically all the students were successful, while two in the senior class passed the University diploma examinations. The attendance at the engineering course was smaller than in previous years. In the senior class some of the practical work in constructing engines evoked much praise. Students were prepared for and passed the City and Guilds Examinations in mechanical engineering, electrical engineering, and surveying. The agricultural course was fairly well attended, and the instruction is so practical that it is bound to increase the size of the class as the character of the work becomes known. The attendance at the domestic course was still small, and could not support a separate staff. Many of the lessons were given in conjunction with the general course. With the staff of the art, applied art, domestic, commercial, and general courses to draw upon, no course in this College is more promising, and we hope that next year the numbers will largely increase. The sports facilities have been vastly improved through the use of Cook's Gardens being granted free of charge by the Borough Council to the day pupils. This has allowed us to provide a game for every boy and every girl for two hours once a week, attendance thereat being compulsory. There has been a noticeable improvement in the boys' cricket; in the Saturday competitions our team finished well up on the list. Even with our own playing-grounds and Cook's Gardens we have not enough grounds for football and hockey, but it is hoped that the Rugby Union will help us in getting more grounds. The Cadets have now reached a very high state of efficiency. At Palmerston North they were placed first in the physical drill, third in the squad drill, and second on the aggregate; and, as teams were entered for the whole of the west coast from Wellington right through to Taihape it will be understood that the results proved our boys' work to be something above the ordinary.

The establishment of a boys' hostel in connection with the Technical High School marks an important stage in its evolution. The success attending it has been most encouraging, as twenty boys will be in residence at the beginning of next term. It has been felt in the past that a hostel was needed, but no beginning was made because of the financial difficulty of providing the accommodation. This difficulty has been overcome by starting on a small scale, and when it is proved that the demand for a hostel exists there should be no trouble in providing the accommodation. Students were prepared for Army Entrance, Matriculation, Junior and Senior Board Scholarships, Public Service Senior and Entrance Examinations, the Book-keeping Examinations conducted by the Education Board, Pitman's Shorthand examination, and those for the book-keepers' diploma of the New Zealand Society of Accountants, and the examination of the City and Guilds of London. One student won a cadetship at Duntroon Military College.

The school magazine, which was first issued in 1913, has again been published, and, although it is smaller than we should like, it has been possible only because of a substantial donation from the Education Board towards its cost. I hope we shall now be able to publish it annually, and that past pupils of the school will keep in touch with us through the magazine. Letters of interest from old boys and girls can be read by their former class-mates in no place more appropriate than the *Index*, and I hope that this year some of our comrades at the front will be kind enough to send contributions. An attempt has been made to organize the old boys and girls so that they need not sever their connection with the College when they leave its class-rooms. We have had to be content with a small measure of success. An Old Boys' Cricket Club was formed and played in the junior-grade competition throughout the season. Many of the old girls have made use of the College tennis-courts, and we hope next year from these beginnings to be able to organize an old-students' association. Our financial position as disclosed by the statements for the year is not at all good. With voluntary contributions of £454 16s. the earnings for the year exceed the expenses by only £161 14s. 2d., and even this figure depends upon our capitation claims being paid in full. After five years in our present building we are still indebted to the Education Board for £228 15s. 3d. We are therefore unable to extend and improve our school as it is in the interests of the district to do through lack of funds. We are very grateful to the Borough Council, the County Councils, the Builders' Association, and those others who have contributed to our funds. At present the improvement and extension of technical education is seriously hampered through want of funds; this is especially unfortunate, as it is just this type of education which will prevent or modify that depression which will surely follow the end of the present war. In some ways the war has been a blessing in disguise. Stern reality has caused us to recognize the efficiency of the Germans, and most people attribute much of this to their system of technical education. It has led to the development of all the community's activities, both industrial and non-industrial, while British schools have largely developed the non-industrial to the neglect of the industrial.

Germany before the war was engaged in a struggle for mastery. The war was a short cut to world dominion, and, like many other short cuts, it is doomed to failure. When peace comes at length the process will be repeated, perhaps with Germany as our competitors, perhaps with some other nation. The public mind has been partly roused, however, and technical education may get some share of the public attention. At present the position in the smaller technical colleges is that the capitation paid on the technical courses is inadequate. It is only because of general and commercial courses requiring little material or equipment that the technical courses can exist. The capitation payments are less than those paid to secondary schools, and the technical courses naturally involve heavier expenses than the general. The attitude of Government Departments, which are slow to recognize the training given, also seriously retards the progress of our schools. Strange as it may appear, the Public Service is practically closed to students from technical colleges. The railway authorities force boys away from the day classes at sixteen years of age if the boys wish to become apprentices to mechanical engineering in the railway workshops, nor is any allowance made for a boy's training in the mechanical-engineering courses: such a boy is treated as an equal with the boy who comes straight from the primary school. In the Public Works Department and the Lands and Survey Department preference is given to the boy with his Public Service Entrance examination as against the products of the mechanical and civil engineering classes. In the clerical branches of the Public Service the boy who passes in commercial subjects has no preference over one who takes general subjects. The Public Service Commissioner's shorthand-typists' examination for girls was the first opportunity given to our students to enter the Public Service, and if we have patience this failure of Government Departments to recognize the training in the technical schools equipped and conducted by the Education Department may eventually be remedied. The Government should be the first to value highly the training given in its own schools, and when it does private employers will do so too. Then technical colleges will get their full measure of public support, the standard of work will be raised, and there will be no class of occupation that is followed by large numbers of our citizens that will not be taught fully and on modern scientific lines. Such schools will not only "make men," as the high schools do, but they will make men ready for the battle of life, and educated to a state where they can bring trained minds to bear on the problems of their daily life, and solve them better than they have ever been solved before. Moreover, where the vocational and the non-vocational subjects are taught in the same institution there should be produced citizens to go out into the various professions and trades with an intimate knowledge of the aims and aspirations of other classes than their own. Such an educational system will tend to produce an educated democracy, which is the ideal all educationalists have in mind.

G. J. PARK, Director.

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

Although the war has overshadowed everything and taken its toll from the students and instructors of the school, yet the year has been one of progress and advancement. The average roll (420) of individual students has constituted a record, while the total number attending for the year was 566. In all about sixty classes were held, the number of instructors being twenty-four. Extra equipment has been provided for the engineering and dressmaking departments. A smithy and a new dressmaking-room, fully equipped, have been provided. Both of these departments continue to grow, and the extra accommodation was much needed. An attempt was made at the close of the year to get day engineering classes instituted for 1916, but so far the response has not been of such a nature as to warrant the Board's appointing a special teacher and starting the classes. No doubt the boys are wanted for work until the war is over, when a sufficient number of students should be forthcoming. The work of the school in all departments has during the year been good, and the Inspector of Technical Schools, Mr. Isaac, was pleased to report on the good tone of the school as well as on the solid work done. The Board acknowledges with thanks the usual annual donations from the Borough Council, Kairanga County Council, the Workingmen's Club, Farmers' Union, and also appreciates the assistance of the local newspapers, which are always ready to publish anything that will materially assist the school. The prospects for 1916 are considerably better than those of past years, the classes being better filled and the numbers generally being much higher. The school, without a doubt, supplies a want of which the young people of the town and their elders are quick to take advantage. The success of the school is largely due to the energy, enthusiasm, and tactfulness of the Director, and this is reflected by the efficient staff who work so well under him.

T. R. HODDER, Chairman.

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

The war looms large as one thinks of the teachers and students who have left us to play their part in the great struggle for right and freedom. The classes that have suffered most through students going to the front have been the trade classes, especially the plumbing class: there have been no fewer than six from that class away. There are still, however, many apprentices in the plumbing trade in town, and I would ask the co-operation of the master plumbers in influencing their employees with regard to the benefit obtainable by attending the Technical School classes, as it is exceedingly difficult for any journeyman plumber to get his certificate unless he attends the Technical School. The total number of individuals who have passed through the school this year is 566, including 165 free pupils. The efficiency of the school as a whole has been well maintained. The dressmaking department especially has gone ahead by leaps and bounds, making it necessary to appoint an additional instructor. The popularity of these classes

is largely due to the enthusiasm, interest, and capability of the instructor. At the annual visit of Mr. Isaac, Inspector of Technical Schools, the urgent need of a special room for dressmaking was pointed out, with the result that the Education Department has provided funds for the building and furnishing of a room which is up-to-date in every particular, and will be available for next year. The millinery and cookery classes also continue to be well attended, the millinery class having this year doubled its numbers. The commercial classes still form one of the largest departments of the school, the number of students in the shorthand classes this year constituting a record. There is no doubt that the war has had some effect on this department, as many girls are now being required to take the place of those going to the front, with the result that more are preparing for commercial work generally. The book-keeping and typewriting classes, too, have been quite up to previous standards, and that the instruction of these classes is of a practical nature is shown by the fact that many of the students are now occupying good positions in various business offices in the town. The Accountants' Association kindly donated two prizes for the best work in book-keeping. The engineering classes are much the same as in previous years, but as it is now the intention to form day classes next year should a sufficient number enrol, this department will probably become more liberally patronized. The chief drawback here, no doubt, is the fact that there are so few engineering works where apprentices are needed; still, farmers' sons, and all those employed in using various types of machinery, could be benefited by joining the classes, either day or evening, especially if a one- or two-years course at the school would count with employers as part of the apprenticeship. Students in this department will be prepared for the examinations of the City and Guilds of London Institute. The agricultural class this year has slightly fallen off, no doubt owing to the boys being required to help more on the farm. Good work, however, has been done both practically and theoretically. The class is indebted to the Agricultural Experimental Association of Manawatu for valuable assistance in the matter of providing means for the cultivation of the experimental plots, and also to the Agricultural Department in the matter of assistance with seeds and manures. The practical work done this year includes the growing of various field crops, and experimental demonstrations with a number of varieties of seeds.

The wool-classing and sheep-shearing classes were very satisfactory. This department is considerably indebted to the executive of the Farmers' Union for financial assistance, and also to farmers for the supply of sheep; in fact, the sheep-shearing classes could not be run with success financially without such assistance. The science class is in the hands of a good instructor, and good solid work has been done. Botany and French classes were held this year, but the number of students taking these subjects was small. The Standard VI proficiency and competency certificate class continues to be one of the most successful in the school, the number attending having been as high as thirty. This class supplies a great need in the community, inasmuch that many who left school without passing Standards V and VI are able to continue their studies and obtain proficiency certificates, entitling them to further free education. The woodwork and cabinetmaking classes have improved considerably in numbers this year, it having been necessary to have two evening classes. Some of the work turned out by the students was exceptionally good, and reflects the greatest credit on the instructor. The only department which seems to show a tendency to fall off in numbers is the art department. This, no doubt, is owing in some measure to the war, as people have neither the time nor money to spend in taking up a subject which to a number is merely a hobby. Also several of the senior students have left for England and other countries to study art, intending to make it their profession, so that the majority of those left are not likely to continue for a very long period. The work done by the art students is quite up to that of recent years, and this was evidenced by the many successes in the recent competitions, and it is hoped that those successes will induce many to take up the classes next year. The school authorities are to be congratulated on the quality of the staff, to whom in a great measure the successful work of the school is due. The school is also considerably indebted to the Borough Council for its annual donation of £30 towards assisting the plumbing classes, to the Kairanga County Council for its annual donation of £30 towards the agricultural and wool-classing classes, to the Working-men's Club for their annual donation of £24 for scholarships, to the Farmers' Union Defence Executive for £20 per annum towards the sheep-shearing classes.

F. D. OPIE, Director.

#### WELLINGTON.

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

The work of the year was much hampered by lack of suitable buildings and recreation-grounds. The position as regards buildings is growing steadily worse, and has retarded the normal development of the College very seriously during the last few years. It is impossible to adapt rented buildings not specially designed for technical-college work to serve the purposes of workshops and laboratories, drawing-offices and art-rooms, or indeed ordinary class and lecture rooms, with any great degree of efficiency. Consequently the rent paid for inferior accommodation is equal to a high rate of interest on the cost of buildings specially designed for our purpose and placed on land of greater value for educational purposes than for industrial or business purposes. A careful estimate shows that the capital value of the buildings and land which are at present being used for our purposes, reckoning rent paid as equal to 6 per cent. on capital value (a reasonable rate, since Education Board property does not pay rates and taxes), would provide properly designed buildings on an adequate site, easily reached from all parts of the town, for about twice as many students as we accommodate at present. Also, the expenses of

teaching and management would be considerably less per student than at present. It is to be hoped that the convincing evidence lately submitted to the Minister of Education of the economy and efficiency which would result from adopting the scheme which has been suggested of providing a home for the Technical College on the Mount Cook Reserve will enable the Government to approve of the scheme. It is impossible to foretell what the growth of technical institutions in this country will be. It is, however, safe to assume that the natural expansion of the industries of the country will lead to an accelerated rate of expansion in technical-college work, as it invariably happens that increase in size of industrial undertaking leads to a greater relative increase in importance of technical education. Consequently we may confidently anticipate that the work of the College will probably grow at a faster rate than will the increase in population. For this reason it behoves the authorities to make provision for a probable large extension of technical-college work, and not to allow the permanent home of the College to be placed on a cramped site, where extension can only be secured at large and increasing cost.

The numbers attending the various classes of the College show a small increase over those for the previous year. As regards regularity of attendance, the record for the Technical High School is very satisfactory, but in the evening and other classes on the whole the attendance was not so good as in former years, owing to so many students being required to work overtime at their ordinary occupations. Large numbers were lost during the year from many of the senior classes owing to enlistment.

*Technical High School.*—The number of students for the year was 254, including 243 free pupils. This number is less than for the previous year, but will probably be surpassed by that for 1916. This fluctuation is caused mainly through lack of proper accommodation, overcrowding taking place more heavily in alternate years. During the year the students, mainly by their own work in the ordinary course and with little begging of the usual kind, provided nearly £300 for various patriotic funds, besides making about 180 baby-garments for the Plunket Baby Fund, and carrying out the writing and illumination on parchment of a book of "Thoughts on the War," by leaders in New Zealand. The work was all well done, and a credit to the students and instructors.

*Evening and other Classes.*—These were attended by 1,163 students, of whom 744 were males and 419 females. Free places were held by 439 of these students, 195 holding junior and 244 senior free places. The College also provided instructors for woodwork and drawing (fifty-three pupils) at the Wellington Boys' College, for drawing and design (208 pupils) at the Wellington Girls' College, and for drawing, blackboard illustration, &c. (153 students) at the Training College. The average class entries for the year were as follows: Art and art-crafts, 215; building-construction, 20; carpentry and joinery, 49; plumbing, 68; engineering, 315; science, 268; domestic economy, 171; English, Latin, arithmetic, &c., 511; commerce, 415; "Amokura" classes, 120: total, 2,152. The numbers of those who took grouped courses during the year and attended well enough to earn higher capitation were as follows: Lower commercial, 173; higher commercial, 142; science and mathematics, 28; trades, 202; domestic, 37; art and art-crafts, 68: total, 650. Thus nearly 60 per cent. of the students took grouped courses of some value.

*Art.*—The art classes have done good work during the year in very difficult circumstances. I regret to report that Mr. G. R. Pitkethly, who has conducted the art work with conspicuous ability during the last eight years, has left the service of this Board. The fact that he has obtained a much more responsible position as head of the Melbourne Working-men's College School of Art is fair evidence that our art work has been in good hands while he was with us. Mr. H. L. Richardson has been appointed successor to Mr. Pitkethly, and the Board is confident that the work will be done in the future with no less skill and success than in the past, and that the school of art will continue to develop on sound lines. The art staff, besides providing for the art classes proper, have also conducted classes in drawing and design in the Technical High School, in the Wellington Girls' College, in the Teachers' Training College, for the Wellington Boys' College, and for teachers on Saturday mornings, and have thus had opportunities of influencing the art-teaching throughout the schools, primary and secondary, in the town. The success of students in the National Competitions in London was very gratifying, and afforded some evidence that the school is being conducted on right lines, especially as the awards won covered several branches of art work, ranging from outdoor sketching and life-work to design and modelling and mural decoration. Twenty-three students forwarded seventy-four works, and obtained thirteen awards of commendation for exhibits of modelled head and foot from life, shaded drawings of heads, hands, and feet from life; studies of animals from nature; designs for damask serviette, and decoration of end of wall of Memorial Hall; water-colour paintings of sailing-boats and figure from nude; anatomical studies and group in water-colours.

*Science, Mathematics, Engineering, and Building Trades.*—These classes were adversely affected by the war owing to numbers enlisting, and others working overtime; but good work was done in most branches, and the attendance was good considering the circumstances. The engineering classes have greatly benefited by the interest which has been taken in them by the Engineering Board of Control. Especially has the Board been successful in arranging apprentice courses and getting students to take them. A good feature of the arrangements made is that certificates issued yearly to the apprentice record not only the results of the year's work at the College, but also the progress made under the employer, and the certificates bear the signature of the employer as well as those of the College authorities. In this way it is expected that the certificates will have a very high value. It is hoped to extend the same system to other trades provided for in the College. A Building Trades Board of Control has been established to correlate the work of the school with that of the trade in carpentry and joinery and building-construction, &c., and should be able to perform very valuable functions in bringing the apprentice to



the College and suiting his courses here to his needs in the trades. The plumbing classes have continued to do good work, the masters have shown a very keen interest in the work, paying many visits to the workshops and giving much helpful criticism, besides offering prizes for proficiency in various branches.

*Commercial and Continuation Classes.*—These classes still attract large numbers, as is natural in a commercial centre. The work generally was satisfactory, as the records of students in Public Service Senior and other examinations show. In these classes I have to report that several instructors past and present have joined the Forces.

*Domestic Economy.*—These classes, especially those in cookery and hygiene, have been very successful, and their work was much admired in the annual exhibition, in which also, by the way, all branches of the College work were well represented.

*Examinations.*—At the Public Service Senior Examination three students completed the examination; one passed in five subjects, nine in four subjects, fourteen in three subjects, and twenty-three in two subjects. At the Science Examinations of the Board of Education, London, six students, and at the Technological Examination of the City and Guilds of London Institute twelve students, secured passes. At the examinations of the Pharmacy Board four students obtained passes in Section B. Students of the College were awarded six prizes in connection with the annual exhibition of the New Zealand Academy of Fine Arts. Full certificates were awarded to thirteen students at the local examinations for electric wiremen.

W. S. LA TROBE, Director.

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

The work carried on at the school during the year has surpassed the standard of that attained in former years. Wool-classing classes were held two nights a week, and a number of the students attended on both nights. This was a great advantage to the students, and could be plainly seen in the progress that they made. During the year a number of free pupils have been attending this class. They were chiefly senior free pupils, and they all did excellent work. The Agricultural Department presented us with some choice samples of wool. Through the courtesy of the manager the students were enabled to look through the woollen-mills, where they spent an enjoyable and profitable two hours. No shearing classes were held this year owing to Messrs. Dalgety and Co. calling in their plant which they had so generously lent to us in the past. Four students passed the first and five the final examination in wool-classing. The demand for classers from sheep-farmers has far exceeded the number we were able to supply, and it is time that the sheep-farmers should subsidize the school for the good work that it is undoubtedly doing for them.

The class for electricity is advancing on sound practical lines and promises well. The younger students are taking a keen interest in their work, and the subject seems to be very popular among the young men. Three students passed examinations for electric wireman's license. Visits were paid to the power-house in connection with the sewerage system and to the Wellington power-house.

The class for typewriting and shorthand has made a great deal of progress. In no previous year has the work reached such a high standard, due in no small measure to the energy and zeal displayed by the instructor, who has taken a keen interest in his work.

A number of the students attending are sitting for the Public Service Senior Examination. Some of them have done an excellent year's work, and should do well. I do not desire to single out any student for special praise, but there is a fair percentage in every class who come to the school to work. There are still a few who, though regular in attendance, have not yet acquired the ability to study consistently. The work in this class has been most difficult to carry out owing to the different degree of proficiency of individual pupils. Next year I propose to take in this class the following subjects: Mathematics, hygiene, English and precis, commercial geography. This, with accountancy, will make the groundwork of a good course for the Public Service Senior Examination.

The domestic classes have not been attended so well as one could desire. So many of the girls are taking up commercial subjects that they do not feel inclined to take up the domestic course. Parents should see the absolute necessity of inducing their girls to take up these subjects. The classes are well taught, but they are not appreciated as they should be. People do not understand what excellent opportunities their children are given to equip them for their later work in life. I am at a loss to know the best way of increasing the attendance. If we could interest the mothers in some way the success of the classes would be assured. A demonstration of invalid cooking was given to the St. John Ambulance men's branch. This may do some good in popularizing the classes. If we could get kindred institutions, such as the women's branch of the St. John Ambulance, to take a similar interest I have no doubt that the attendance at the classes would improve. There is no reason that I can see why the St. John Ambulance classes should not be associated with the school. The benefits derived, I think, would be to the mutual advantage of the school and the society.

The work done by the class for building-construction and carpentry has been of a very high standard. This class is doing better work each year, and I was pleased to note that some adults took a course in carpentry this year. It was a pleasure to note the interest they took in the class, and the work they did was exceptionally good. The prospects of this class were never brighter. Deeper interest might be aroused if an exhibition of the work done was made in some prominent place, for I am fully convinced that if the excellent work were shown to the people that they would take further advantage of the classes.



The instrumental-drawing class at the beginning of the year was a very large one, and some of the pupils were drafted to the building-construction class. The work by the older students was particularly good. It is proposed next year to extend the scope of this class by including practical mathematics. The class for drawing and painting is still for the most part composed of primary-school children. It is doing good work, but the older pupils require more advanced work than they can get in this particular class.

The work in the class for plumbing still maintains the high standard of previous years. The Inspector's report on this and the other trade classes shows that the standard of work is particularly high.

The book-keeping class has distinctly advanced during the year, and if it continues to progress we must very shortly hold these classes twice weekly. Apart from enabling the school to accommodate more pupils, it would be in the interests of the pupils if they were able to attend on two nights instead of only one. Cadets in some of the Government offices, such as the Post and Telegraph, have not been so regular in attendance as one could wish. No doubt, owing to the shortage of clerks brought about by the war, this could not be helped, but I think even taking this into consideration their attendance might have been better than it was. The Public Service Commissioners might, I think, see that cadets get more opportunity of attending technical schools.

The chemistry class is growing and now has a satisfactory number of pupils. We have had rather a broken year owing to several unavoidable changes in the staff.

The continuation classes have been well attended, and good progress has been made. The work shows a distinct advance on that of previous years. I have as far as possible given the boys a course in elementary mathematics correlated with the various trades which they are following. It may be possible to extend this next year and so supply the trade pupils with the mathematics essential to the proper understanding of the problems arising out of their work. The writing in the class has also received attention, with very gratifying results.

During the year the secondary classes of the District High School have been held in the Technical School buildings. They have not interfered in any way with the working of the school, and I have found no difficulty in making satisfactory arrangements.

The cadets have had a very successful year. The roll number is over one hundred. I have had very great help from Sergeant-major Stewart, who is ever willing to do what he can to lighten my work. A little more assistance, however, in the way of supplying lieutenants may well be given by the Defence Department. Both of the lieutenants are serving their country in another way, and yet I cannot get assistance in this most important work. A great number of students have enlisted during the year, and some of our old students have given up their lives for the Empire. It has been suggested that the carpentry class might make an honours board to be placed in a conspicuous place in the school.

There is one matter that I desire to bring particularly under the notice of the Managers, and that is the unsatisfactory conditions under which some of the apprentices have to carry on their studies. For the sake of illustration I shall take the plumbing trade. The apprentices have to do their eight hours a day at work. In such a place as, say, Lower Hutt they would have to add to that one hour and a half travelling to and from Wellington to their work. Added to this they have to come to a technical school for instruction. This, with travelling, would take two hours and a half, so the minimum time they are working is practically twelve hours a day. When they arrive at night they are not fit to do justice to their work. It seems to me that the time has come when some better method should be adopted. Thus the Dominion might be divided into districts, and a permanent instructor appointed for each. The employers should give their apprentices four hours a week off to enable them to attend classes. With an additional two hours at night once a week they would make far more progress than at present.

Our annual social was a distinct success from every point of view. The manner in which it was carried out reflected great credit on the management committee, who carried out their work in a very able way.

Thanks are due to the following bodies for generous donations: Petone Borough Council, Gear Company, Working-men's Club, Wellington Woollen Company, Upper Hutt Town Board, Hutt County Council, Lower Hutt Sports Club, Lower Hutt Bowling Club, Upper Hutt Technical Committee, Lower Hutt Council, also to numerous private subscribers. The outlook for the school is very bright, and the staff are painstaking and energetic.

The report from the Upper Hutt branch is very satisfactory, and the committee are enthusiastic in their work. There is no doubt that they fully appreciate the work that lies before them, and they are fully confident that their classes are going to be a big asset to the district. The support they are getting in the way of donations should urge them on to still greater efforts.

This is practically the first year that the Lower Hutt has taken seriously the matter of technical education. The secretary and his energetic committee have reason to feel proud of their first year's work, and the results show that in a very short time the classes established will make their influence felt in the district. Generous support has been given by various local bodies and private individuals.

In conclusion, I must thank the staff for the generous support they have given me throughout the year. They have indeed made my work a pleasure. I must also thank the Chairman and Board of Managers for the generous support they have given me at all times. The officers of the Education Board and the Education Department have rendered every assistance, and the work throughout the year has proceeded without the slightest friction.

JAS. H. LYNSEY, Director.

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

The nineteenth year's course of instruction was a most successful one. Work was commenced in March, and continued throughout three terms of twelve weeks each, with one week's vacation between the terms. The attendance showed a decided increase on any previous year, the total number of individual students being 375—166 males and 209 females. Of these, thirty-two boys and thirty-three girls were free-place students—sixty holding junior free places and five senior free places. The percentage of attendance of all students for the year was 79·8. There were 187 students between the ages of thirteen and seventeen years, while 188 were over seventeen years of age.

Early in the session the Managers completed arrangements for establishing classes in agricultural chemistry and in magnetism and electricity. A laboratory was equipped, and a fair number of pupils availed themselves of the tuition offered. On account of the war an order for additional electrical apparatus was not fulfilled, and the work was somewhat hampered on this account. The Department expressed its willingness to recognize practical certificates for Public Service Senior Examinations secured by attendance at these classes.

A wool-sorting and wool-classing division did good work during the second and third terms. A theoretical and practical examination was held in December, and five students succeeded in qualifying for a first-year wool-classer's certificate. The attention of farmers and all contemplating an agricultural occupation is confidently directed to the facilities offered by the classes in agricultural chemistry and in wool-classing to secure technical education which would prove of inestimable value to them day by day. To learn nowadays solely by one's own practical experience is too slow and hazardous. A class for the study of elocution was also established. The instructress did good work, but the number of senior students who availed themselves of her services was not large. An improvement in this direction is anticipated for the 1916 session.

A series of University extension lectures on history and economics was very greatly appreciated by a large number of adult students. The Managers have arranged for classes next year to prepare students in these subjects for the Public Service Senior, Teachers' C certificates, and B.A. examinations.

In addition to the new classes referred to, instruction was availed of in the following: Painting, freehand drawing, general drawing, model-drawing (light and shade), cookery, dress-making, art needlework, plumbing (theoretical and practical), woodworking, typewriting, shorthand (Pitman's and Gregg's systems), book-keeping, Public Service subjects, English, and arithmetic. The typewriting and shorthand classes drew the largest roll numbers, and five new typewriters had to be purchased. Even then the supply of machines was hardly adequate. It might be mentioned that two disabled soldiers were keen students of the typewriting and shorthand class during the third term.

Arrangements are well advanced for the erection on the present site of a cookery-room and a laundry, consisting of two rooms—a washhouse and an ironing-room. The Department has notified the Managers that because of the existence of a cookery-room at the Masterton District High School it cannot undertake to assist in the erection of any similar facilities at the Technical School. Experience has shown that the District High School is too far removed from the centre of the town to render it suitable for night classes. Moreover, the Managers are of the opinion that their school should be self-contained, and they are desirous of securing for their institution all the facilities that a modern technical school affords. With the home-science section in working-order, the Managers will no doubt turn their attention to the desirability of equipping an engineering workshop.

The course in home science will include dressmaking, art needlework, cookery, and laundry-work. The newly appointed instructress will commence her duties at the reopening of the school for the 1916 session.

By effluxion of time the junior free places of twenty pupils lapsed on the 31st December, 1915. The Director reported upon the attendance, conduct, diligence, and progress of fifteen of them whose work he considered "thoroughly satisfactory." As a consequence the Department was pleased to grant these pupils senior free places entitling them to three years' additional free tuition from the 1st January, 1916. This is the first time that the school has sought to secure senior free places for its promising junior free pupils, but it is now intended to examine and report annually upon all pupils whose junior free places are about to lapse and who have proved themselves worthy of further free education.

The statement of receipts and expenditure shows the receipts from all sources to have amounted to £1,298 2s. 7d., of which the sum of £249 10s. 6d. was paid in fees by the students. £327 2s. 6d. in voluntary contributions, and £684 5s. 5d. in capitation and grants from the Government. Including a debit balance of £230 16s. 9d. brought forward from 1914, the disbursements amounted to £1,362 15s. 4d., thus leaving a debit balance of £64 12s. 9d. at the end of the year. Against this must be calculated capitation and subsidy on voluntary contributions due from the Department, so that the school really opened the new year with a credit balance.

Special acknowledgment is made of the financial assistance rendered to technical education by the Masterton Trust Lands Trust (£300) and the Masterton Borough Council (£25) during the 1915 session. Thanks also are due to the officers of the Department and to the Masterton Press for unfailing courtesy and valuable assistance on all occasions, and to the staff for the excellent services rendered throughout the year.

J. M. CORADINE, Chairman.  
D. E. LESLIE, Director.

## HAWKE'S BAY.

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

At Gisborne the High School Board of Governors and the Education Board have come to an agreement that has been approved by the Education Department, and by means of which the Technical School buildings become vested in the Education Board and the control of technical education in the Poverty Bay District passes into the hands of the Education Board. It seems fitting that special mention should here be made of the great work in technical education carried out by the High School Board in Poverty Bay, and especially of the part taken in that work by the Hon. W. Morgan, M.L.C. Mr. Morgan was responsible for the inauguration of the wood-work, cookery, and dressmaking classes in his district, and it is to his personal efforts and enthusiasm that a large amount of the success of these classes is due. On the Board's assuming control of primary classes in 1911 Mr. Morgan devoted all his attention to purely technical and continuation work, with marked success in plumbing, and classes in sheep and wool. His knowledge, organizing ability, and wide experience will be greatly missed in the northern ward of the education district.

A class in agricultural chemistry for fruitgrowers was conducted at Hastings from June until October. Altogether twelve lessons each of three hours' duration were given. This work was greatly appreciated by the farmers. Twenty-four students were in attendance.

Teachers' classes in elementary hygiene and drawing were conducted at Gisborne, Napier, and Dannevirke; classes in domestic science at Gisborne and Hastings; and in agriculture at Hastings. The classes (nine in all) were held on Saturdays. With the exception of the classes in domestic science the standard of instruction was that of Class D.

I have to thank the Board for their consideration of all recommendations made by me during the year for the improvement of technical work throughout the district, and the Inspectors and Secretary for valued and willing assistance in many ways.

E. G. LOTEN, Director.

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

The work of the Technical High School which has been most successful during the year was divided into three definite courses—(a) A mechanical course for boys who intend to enter skilled trades or ultimately take up farming; (b) a special commercial course for boys who intend to enter offices or warehouses; (c) a combined commercial and domestic course for girls in which half the time is devoted to work which will fit them to become home-makers, and half to work qualifying them for an office career. The enrolments for the year were 108, as follows: First-year pupils, 68 (left during year, 14); second-year pupils, 27 (left during year, 12); third-year pupils, 13 (left during year, 6). The roll at the end of the year was seventy-six. I would again draw attention to the number of pupils who withdraw before the end of the second year. It is almost an evil that this should be when free secondary education is provided by the State. An average pupil who works well is fairly well equipped for an office at the end of a two-years course, but for a pupil to leave before the expiration of two years is such a serious handicap that it should be avoided if possible. The attendance has been very good indeed, and the home-work has been well attended to in most cases, and I wish to thank both parents and pupils accordingly. Home-work is set regularly and a record of it kept during the year, and the results of the year's work are calculated on home as well as on class work. The usual exhibition of pupils' work in all branches was held at Hastings in October, and was very favourably commented on. The event of the year was the building of the new social room and gymnasium, which has cost about £800. The building was utilized for the annual exhibition of pupils' work in December, when the Hon. J. A. Hanan, Minister of Education, officially declared the building open. It will be of immense benefit to the pupils for physical training and social purposes. It will also be used as a drawing-office. The half-yearly and annual examinations were carried out and the results were entirely satisfactory, although the standard was raised very considerably this year. Sixty-eight pupils sat for the annual examination. There were two failures, who were only 3 per cent. below the pass requirements, and two absentees through illness.

The usual sports have been carried on—cricket, football, hockey, tennis, basket-ball, swimming, &c. At the competitions for life-saving the College was successful in annexing all the trophies—viz., Vigor Brown Shield and four medals, Cottrell Cup and one medal, also the prize for the life-saving competition for girls. Long-distance certificates for swimming were won by twenty boys and thirteen girls for distances varying from 100 yards to three miles, this latter distance being covered by a girl.

Two pupils entered for City and Guilds of London Examinations in cookery and millinery, and were both successful in passing the examinations. The boys have paid visits of inspection to the Railway Workshops, Messrs. J. J. Niven and Co., and also the electric power-house. These visits are of great educational value to the boys, and will be continued in the future. During the year the girls have made some shirts, bandages, sandbags, &c., for the troops at the front. Two school picnics have been held, one at the beginning and one at the end of the year. A sports programme was carried out on each occasion, thus developing a very healthy rivalry in both girls and boys.

*Evening Classes.*—This important branch of the work of the Technical College has been carried on during the year with a considerable amount of success. The course of work has been arranged in two definite courses—a course for continuation pupils who desire to qualify for Standard VI certificates, and a complete course of technical education, which has again been

divided into courses suitable for various trades and professions. In addition to these courses classes have been carried on for sixteen public-school classes in cookery, dressmaking, and wood-work, two teachers' classes in science and art, and cookery and woodwork classes for the Hukarere and Marist Brothers' schools.

With regard to the compulsory classes, it is very regrettable that there are still a number of pupils who endeavour to evade attendance by attending in such an irregular manner that it is of no benefit to them at all, whilst others who do attend seem to have made up their minds to waste their time as completely as possible. It should be remembered that the Education Act in providing for compulsory attendance places the classes in any branch of work within the free reach of all who desire to improve themselves, and in the event of the compulsory classes being for any reason abandoned a large number (about one-third of the total enrolment) of deserving pupils would either have to pay fees or be debarred from attending the classes. The total number of individual students attending the classes was 316, of which number 100 were attending under the regulations for compulsory attendance. The highest weekly average of attendance was 481, and the lowest 420; and as the majority of pupils were attending at least twice a week, it shows that about fifty pupils were absent at least once in every week. This lack of appreciation of the benefits to be derived from attendance speaks for itself, and is not as it should be. The results of the annual examinations are again very instructive. At least fifty pupils failed to sit for the examinations, the number actually attending being 159. The percentage of failures was slightly higher than for the previous year. The number of classes held was thirty-two. Pupils in the practical classes have attended very well, and very good work indeed has been done, and I am sure the benefit of this will be felt in after-life; but as far as office-work is concerned, I am convinced that there is a very large number of pupils attempting office-work who are absolutely unfitted for it both in ability and temperament. On the whole very good work has been done, and there has been a considerable improvement on previous years. In a very large number of cases I have only words of praise for the marked progress made. Great praise is also due to the staff for exemplary work done under trying circumstances, without which it would have been impossible to obtain the results that have been obtained.

In conclusion, I have to thank the Board of Managers, the Press for notices, &c., and lastly my boys and girls, who have always been ever ready and willing to do all that they could in any way to assist in carrying on the work of the school.

W. FOSSEY, Director.

## NELSON.

### EXTRACT FROM THE REPORT OF THE EDUCATION BOARD.

It is most gratifying to report a marked advance in the technical classes conducted in the district. The classes at Westport were reorganized and the schools placed under the direction of Mr. A. G. Tomkies, who is also the engineering instructor. The number of enrolments was nearly 100 per cent. more than the previous year, and all the classes arranged for were well attended. The day Engineering School is a most successful branch of the work, and has more than justified its existence. The Nelson Technical School is under the direction of Mr. Cockburn, and the number of students attending the school was an increase on that of the previous year. The general work of these schools is dealt with in the reports of the directors. The Board desires to thank the local bodies at Reefton and Westport for their generous donations towards the support of the technical schools at these centres. The Nelson School is unfortunate in this respect, as neither the City Council nor County Council makes any provision towards the support of the school.

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

Although the session commenced with a smaller number of paying students, there was an increase in the number of free-place students, and also an increased number of transfers from the Boys' and Girls' Colleges. In respect to the matter of transfers, one cannot help but feel that many of these students had been ill advised in entering upon a secondary course when they were not prepared to continue with their studies at these institutions for at least a period of two years. In some cases they had only attended for one, two, or perhaps three terms before taking up employment as shop-boys, telegraph messengers, &c. The short time thus spent at the secondary school proves of little or no benefit to them. The following is a brief summary of the work of the school: The total number of students who received instruction during the year was 454. Of these 175 were free-place pupils, ninety-four junior and eighty-one senior free pupils. The total number of hour-attendances registered during the year was 60,434. The majority of students took up definite courses of work. A very considerable number of students exceeded the maximum number of hours required for capitation purposes, in some cases by more than double.

The class for theory and practice of telegraphy has suffered during the past twelve months from the irregular attendance of many of the students, due in a large measure to the very irregular hours of work at the post-office. In spite of these drawbacks excellent work has been accomplished, several students gaining successes in the departmental examination, and I think the Post and Telegraph Department might well, by a grant, recognize the useful work being done. The plumbers' class, a small one, was still further reduced by members leaving for the front. In connection with the engineering class an experiment was made of obtaining a number of sets of castings for a small petrol-engine. Eight sets altogether were obtained, and are to be paid for

by instalments. This has proved an undoubted success in maintaining the interest of the students and keeping the class together. Some of the engines will be completed during the next session, when the students will proceed with the construction of a suitable dynamo. In all probability, if the services of a suitable instructor were available during the day, classes could be held during the day with even greater success. The art and art-craft classes were numerous and well attended, and did some excellent work during the year. The commercial classes were also well attended, and additional classes had to be started and were soon filled. The day cookery classes were fairly well attended, but the evening classes were very poorly supported, and finally fell through. A class for nurses from the public hospital in invalid cookery was held during the second term, with an average attendance of nine. The number of boys entering the school for day courses in carpentry, &c., was fewer than usual. The evening class in cabinetmaking was fairly well attended, and satisfactory work was done. The classes in English and arithmetic continue to be well and regularly attended both during the day and evening. The class in higher English and mathematics, which was started during the latter part of the session 1914, increased during 1915, and justified its existence. Examinations were held in most subjects, both day and evening, at the end of each term, and also at the end of the year for senior free places. All who sat were successful in gaining the extension of their free places. Classes were conducted in farm carpentry and drawing at the Stoke Orphanage, and were attended by about fifty boys. The usual classes for teachers in drawing, botany, and chemistry were held on Monday and Friday evenings and Saturday mornings, and were attended by an average of sixteen teachers. A successful year's work was brought to a close by the annual exhibition of students' work. Mention must be made of the splendid way in which students in the art and art-craft, domestic, and carpentry departments worked making various and ornamental things which were sold for the benefit of the local patriotic funds; nearly £40 was raised in this manner. In conclusion, I have to thank the Board's staff for courtesy and assistance during the year, and also the teaching staff for their loyalty and support.

F. C. COCKBURN, Director.

#### EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE REEFTON TECHNICAL SCHOOL.

During the year classes were held in the following subjects: Dressmaking, shorthand, book-keeping, and typewriting. A class for students wishing to sit for the Public Service Entrance Examination was also held. The numbers attending the various classes were as follows: Dressmaking, 15; shorthand, 16; typewriting, 16; book-keeping, 16; Public Service Entrance, 10. The dressmaking class in 1914 was in every way our most successful class, but this year it had to be discontinued at the end of the first term as the number of pupils offering did not warrant its continuance. Good work has been done by all classes, and the students who were taking a second year's course now have a good working knowledge of the subjects taken. Financial matters in connection with the school do not come under my jurisdiction to any great extent, but I would respectfully suggest that, with a view to putting the school on a better condition financially, the scale of fees be revised. In conclusion, I have to thank the instructors for their able and willing co-operation, and also the Board's office staff for prompt attention to all matters in connection with the school.

W. A. RUMBOLD, Supervisor.

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

In spite of the retarding influence of the present disastrous war, the year's work stands as a record one in the history of the school in all departments, and I hope that the result will stand in a like position. The total amount of fees forwarded to date is £157 9s. 3d., being only £13 5s. 3d. short of the previous five years added together. The majority of the classes have been carried on under conditions which have not been at all favourable. The temporary classroom arrangements have been most inadequate, and more equipment and adequate lighting are urgently required in several places. With the assistance of some of the day engineering students I have done everything in my power to make conditions as comfortable as possible during the year, and I can only add my appreciation of the manner in which the whole teaching staff have carried out their respective duties and the enthusiasm evinced by all of them. I have already seven enrolment forms filled in for next year's day engineering course. Previously not one has enrolled before the holidays. The following courses were conducted at the school during the year: An engineering course at the Technical School, classes for engineering held in the evening, carpentry, art, commercial subjects, dressmaking, and domestic science; and classes for drawing, hygiene, and chemistry for teachers; manual-training classes for metal-work and domestic science in connection with the local public schools. The class for accountancy was abandoned at the end of the first term owing to the small roll number. With the Board's consent I propose to revise the arrangements under which the art classes are conducted. The classes next year will include general instruction in art instead of definite subjects as hitherto. The work will also embrace applied art, a subject which has never been taught at the schools before. This will tend to make the classes more popular, and will provide a more assured income for the instructor. Owing to the increased number of engineering students the appointment of a probationer assistant for next year is a matter of necessity. Two classes will have to be provided for next year. In conclusion, I have to thank the Board for the manner in which they have treated the school this year, and also the local bodies who have contributed very generously towards its support.

A. G. TOMKIES, Director.

## GREY.

## EXTRACT FROM THE REPORT OF THE ACTING-DIRECTOR OF THE GREYMOUTH TECHNICAL SCHOOL.

Day and evening special classes at Greymouth were carried out in the same numbers and on the same lines as those of the previous year. Full courses were successfully held in commercial, domestic, and trade subjects. The engineering school with its workshop practice did excellent work, and when reopened this year had doubled the attendance for 1915. Unfortunately the general disruption of normal conditions caused by the war affected the general attendance of the day and evening classes by approximately 33 per cent. Nevertheless really good work was accomplished, and the establishment of the commercial and engineering day schools was amply justified. At Blackball, Ngahere, and other country centres dressmaking classes were held with very successful results.

Extending over the school year teachers' training classes were held in drawing, hygiene, and first aid. These were largely attended, and good work was accomplished. Practical instruction in first aid was given by certificated instructors of the St. John Ambulance Society, and the examinations in all subjects held at the close of the classes proved that the students had derived material benefit from the opportunities of advancement afforded them by the Department.

In conclusion, I have to acknowledge my deep indebtedness to the officers of the Department for the many courtesies and considerations extended during the year, and to thank the Chairman and members of the Board, the instructors, and all concerned in the conduct and up-keep of technical education in the Grey Education District.

P. F. DANIEL, Acting-Director.

## WESTLAND.

## EXTRACT FROM THE REPORT OF THE EDUCATION BOARD.

A teachers' class in elementary science and hygiene, also classes in commercial subjects, including shorthand, typing, book-keeping, English, arithmetic, and algebra were held during the year. The classes in commercial subjects and the manual classes for woodwork and cookery in connection with the local public schools were carried on by instructors whose services were obtained by arrangement with the Grey Education Board.

## NORTH CANTERBURY.

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

An institution such as this could not fail to be influenced by the grave crisis through which the Empire is now passing, and for the first time in the history of the College the number of students in the evening school has shown a decline. This was only to be expected, for though the enlistment age is twenty many enlist under that age, many more are unsettled by the proximity of their time for enlistment, and other younger students are devoting increased attention to military training. The total number on the roll for the past session has been 1,566, as against 1,709 in 1914. Of these, 421 were enrolled in the Technical High School and 1,145 in the evening and other classes.

*Technical High School.*—The most notable feature of the year has been the extraordinary demand for our pupils to fill vacancies that have been caused directly or indirectly by the war. Of sixty-five third-year pupils only fifteen remained long enough to earn full capitation, twelve to earn three-quarters, eighteen to earn one-half, nine to earn one-quarter, while eleven earned no capitation at all. Although the position caused by the leaving of our pupils was more than ordinarily acute, our experience is similar each year. It may perhaps be thought that some pressure should be brought to bear on senior pupils to remain longer at school, but it must be borne in mind that this school is essentially different from the ordinary high school, in that it gives definite training for special careers, and therefore whenever suitable openings occur it is desirable in the interests of the pupil that the opportunity for securing employment should not be lost. Employers, for example, do not require apprentices at the end of the year only, and if a boy were to refuse a good offer he might not have another equally favourable. This essential difference between the technical high school and the ordinary high school has not been sufficiently taken into account in determining the method of payment for the latter. It is clear that unless something is done to place technical high schools on an equally favourable footing with the ordinary high schools it will be impossible for them to maintain efficient staffs in view of the increased salaries that are being paid both in secondary and primary schools.

During the year a physical-culture and games mistress was appointed to our staff. This has rendered it possible to give much greater attention to the physical development of the girls, and in particular, by the application of remedial gymnastics, to help those who were in special need of such assistance. The introduction of folk-dancing has also added much to the benefit to be derived from the more formal physical culture and made the work more interesting and enjoyable.

In several directions the pupils of the school have tried to help the causes that have so great a claim on us at this time. On three separate occasions cases of clothing containing about three hundred garments in all have been forwarded for the poor of Great Britain and Belgium, while by very varied effort and much hard work the pupils and staff have raised nearly £600

to be devoted to the Serbian, Belgian, and Polish Relief Funds and to our Patriotic and Red Cross Funds. A number of our evening students also gave up evenings during the vacation to make crutches for disabled soldiers. In order to foster a greater homogeneity throughout the school and to prevent the separation that is likely to result from the organization of the school into classes and departments, the "house system" was introduced during the last term of the year. For the purposes of this system for all sports and activities outside the class-room the pupils are divided into "houses," each of which is placed under the special care of a member of the staff. In many large English day schools this system has been found to be of great value in promoting a spirit of solidarity among the members, while the interest in school games has been greatly stimulated by the various competitions and matches between the houses. It is through loyalty to the small units that loyalty to the greater can be most effectively cultivated, and we hope that loyalty to the college will be a natural consequence of loyalty to the "house," and from loyalty to the college may follow loyalty to the State and to those spiritual claims which transcend even those of the State.

*Evening School and Special Classes.*—The trades department in the evening school has necessarily felt most the effect of the war, and here the enrolments have declined by more than a hundred. The chief feature of the session has been the reorganization of our home-work scheme. With evening students home-work is in many cases a serious difficulty, for if the course of instruction is to include all that it should it must in general occupy at least three evenings per week, while the home-work will take a fourth evening. In the case of the boys military drill, and in other cases ordinary business, on the late night makes further demands, so that it frequently happens that a student has not a single evening to himself. This is not a desirable condition of things either from the point of view of the employer or of the State. We need to encourage an all-round development, and to promote this recreational and social activities, or hobbies, play no unimportant part. If employers generally recognized how great a demand the effort to improve their efficiency makes upon the time and energy of young students I feel sure they would make some concession to those who are so earnestly endeavouring to increase their qualifications. Certainly I never myself realized how many and how great are the difficulties which some students have to encounter until I came to interview those who did not send in their home-work regularly. At the same time the instructors are agreed that, although the organization on the present basis has entailed a good deal of extra expense and work, it has been justified by the great improvement in the results. A very gratifying feature of the session has been the success attending the Past and Senior Students' Association. Although many of its members have volunteered for the front, including two vice-presidents, treasurer, and secretary, and its ranks accordingly have been seriously depleted, in the Christchurch literary and debating competitions the association was brilliantly successful, winning the championship shield by 107 points to 62. At hockey one of the two girls' teams was runner-up, while one of the four boys' teams won the cup in their grade. In cricket the association has not yet lost a match.

Though at such a time as this there is a great demand for the help of the young in carrying on the practical affairs of the nation, it cannot be too strongly emphasized that the need for education is more urgent than ever. In the dark years which must follow the close of this war, when the resources of the Empire will be strained to the utmost to meet the appalling obligations which she is now incurring, if we cannot face the situation as a highly trained and educated people we are doomed. The methods and the training that have sufficed for the past will be altogether inadequate for success in the fierce competition which must ensue when the leading nations contend as never before by every means that skill can devise or cunning suggest to secure the markets of the world. We cannot hope to survive in such a struggle if instead of lengthening the training period of the young we proceed to shorten it. We may have little respect for the educational ideals prevalent in Germany, but one thing she has surely grasped—the necessity for education and its limitless possibilities. Our belief in its power and our preparedness to make sacrifices for its promotion will be the measure of the future success of our country.

JOHN H. HOWELL, Director.

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

The session opened in February with an increase in all departments as compared with the previous year. This increase was maintained generally throughout the year, except in some cases referred to below. The number of individual students in attendance this year was 429, against 446 for last year, and the collective roll number of the school is 1,778 (including 489 secondary and public-school pupils attending manual classes), against 1,665 for last year, showing a decrease of seventeen individual students and an increase on the collective roll number of 113. This is due to an increase in the number of students taking courses of correlated subjects. The details of the several departments are as follows: Domestic science—Home nursing, 40; home science, 10; hygiene, 8; home-management, 8; cookery, 76; dressmaking, 269; millinery, 139: total roll, 550. Commercial—Commercial English, 115; commercial arithmetic, 92; commercial geography, 12; business methods, 23; book-keeping, 68; shorthand, 60; typewriting, 69: total roll, 439. Trade classes—Practical mathematics, 35; trade drawing, 22; woodwork (carpentry, &c.), 44; carpentry and joinery (principles), 20; farm carpentry, 14; electricity and magnetism, 15; agriculture, 9; wool-classing, 26; shearing, 21: total roll, 217. Art classes—Painting and design, 20. General physical culture, 63.

In the domestic-science department the classes for home nursing, dressmaking, and millinery have all increased; in the two latter subjects the number of classes has been doubled. The cookery classes show a decrease in roll numbers as compared with last year. In the commercial



department all classes show an increase, a pleasing feature being the keen desire shown by the students to progress and the fostering of that desire by the instructors. Seven speed certificates were obtained by students of the shorthand classes for speeds of from 80 to 130 words per minute. Another gratifying feature is that employers are now recognizing the training of this department of the school by applying for junior clerks, &c.

In the trade classes there has been a general increase. The woodwork department, including carpentry and joinery, trade drawing, and farm carpentry has made splendid progress, as have also the classes for metal-work, electricity, and magnetism and agriculture. A class for wool-classing was again held at Methven, and the class for sheep-shearing was also well supported, although there were not sufficient students offering to start a second class. The art classes have shown a slight increase. The class for physical culture has been very successful, and the apparatus fitted up in the wool-room for gymnastic purposes has been much appreciated.

The European war has, as elsewhere, affected the attendance, inasmuch as the increase in roll numbers has not been as great as it might otherwise have been, but the decrease in individual students and comparatively small increase in roll numbers is largely accounted for by the fact that several classes—drawing for teachers (roll, 66), sign and ticket writing (roll, 18), and elocution (roll, 13)—were not held this year, due indirectly to the war. The addition to the full-time staff has greatly facilitated the work; it has enabled us to increase the number of classes by dividing up the large classes, a very desirable change, which has greatly increased the efficiency of the school. Thirty-one students entered for the examination for senior free places, and one sat for the Public Service Entrance Examination.

The boys' hockey club was somewhat disorganized by senior students' volunteering for the front, and in the circumstances we are not sorry but proud of the fact. The girls, who had also lost some of their best players, were collectively too weak to enter the competitive matches.

It is difficult, in the absence of our old students' association, to keep in touch with those who have left the school, consequently the exact number of ex-students who are serving their King and country cannot be stated, but we know that there is a goodly number—some, alas, who will return to us no more. Mention must be made of the girls attending the school, particularly those in the home-nursing class, who have willingly and eagerly learnt to knit and have spent their spare time in making garments for the wounded, also those who are cheerfully doing their brothers' work on the farms while they are at the front. It is quite plain that after peace is declared there will be a strenuous and sustained fight for industrial and commercial supremacy, and the nation which is first on its feet, the nation which first recovers its financial stability, will be able to dictate terms and back them up. How can we help in this? By careful preparation. Educate, educate, and educate—especially on the industrial and commercial sides—so that when arms are laid down we can spring off the mark and not be handicapped by a bad start. Parents who are making and who will make an extra effort to continue their children's education are taking a wise step, and are, moreover, showing a foresight and patriotism which will receive the approbation of the present and the commendation of the future.

I must thank every member of my staff for the loyal support and good work done throughout the year. 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. I must thank the Board for the whole-hearted way in which they have supported me throughout the year, which has now reached a successful termination.

A. L. MOORE, Director.

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

During the year classes have been held in woodwork (twenty students), dressmaking (fifty-one), and motor-engineering (twenty-eight). The attendance at most of the classes has been satisfactory. Instruction in woodwork and cookery was also provided for pupils attending public schools. The new class in motor-engineering was well attended. Last year's contributing bodies have again kindly responded this year. The Kaiapoi Working-men's Club has doubled its contribution. The buildings and grounds are in good order.

THOS. DOUDS, Director.

#### EXTRACT FROM THE REPORT OF THE MANAGERS OF THE AKAROA TECHNICAL SCHOOL.

Owing to the war the Managers found it impossible this year to carry on the classes for adult males. A very successful class for dressmaking was held. Instruction was provided, as usual, in cookery and woodwork for public-school pupils. With the permission of the Managers the ladies working for the Red Cross have used the dressmaking-room for their work during the whole of the year.

ALEX. GRAY, Hon. Secretary.

#### EXTRACT FROM THE REPORTS ON CLASSES HELD AT VARIOUS COUNTRY CENTRES.

*Amberley.*—Classes for dressmaking (sixteen students), home science and cookery (sixteen), and woodwork (seventeen) were held during the year. By making 80 per cent. of possible attendances several boys have qualified for free tuition or refund of fees. A good quantity of work was put through, and in all the classes the interest was most marked. A very creditable display was made at the local show in May. The Managers are greatly indebted to the Kowai County Council and the Amberley Town Board for voluntary contributions to the funds.



*Kaikoura*.—Classes in dressmaking and woodwork were carried on. Fair support was accorded the dressmaking class, but that for woodwork was poorly attended. In a district like this there should be ample room for expansion, and an endeavour was made during the year to stimulate interest and to form a Technical School Board. An appeal to the local authorities for assistance was, however, deferred till after the war, so that nothing further in this direction can be done at present.

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

The work at this school during the past year has been carried on with gratifying success. The classes are much larger than formerly. The instruction in woodwork and cookery was in the main confined to public-school classes. About ten public schools in the neighbourhood furnished pupils. An evening woodwork class has, however, also been held, with good results. The dress-cutting classes attract large numbers of pupils, and the attendance is invariably good. That the instruction gives satisfaction is shown by the fact that pupils have come from homes fifteen miles distant to attend these classes. The prospects of the school for 1916 are quite satisfactory.

ROBERT BALL, Chairman.

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

*School of Engineering*.—As the average age of a student at the School of Engineering is somewhat higher than that of the ordinary undergraduate, it is natural that the effects of the war should be felt to a greater extent, and the more so as the training at such a school enables those who may be unable to enlist for "active service" to take up some special work. Such has been the case, and consequently the attendance has fallen considerably. Many of those enlisted have obtained commissions—some in the Engineers, some in Aviation Corps, while others have found employment in technical work in Australia and Britain. Another cause of lower attendance is that the ranks of the Public Works Department of Engineers have been similarly depleted by enlistment, and consequently the Department could not carry out the arrangement made before the war by which a certain number were to take a course of instruction at the School of Engineering. Three only of such students, and these from the electrical engineering branch, were able to attend the first year's lectures.

In the early part of the year a letter was received from the Hon. A. M. Myers, Minister of Munitions, asking the assistance and co-operation of the Board of Governors and the scientific staff of Canterbury College with regard to the production of munitions and kindred work, and inquiring what material and appliances were available for such purposes. The Professorial Board thereupon set up a committee consisting of the Professors of Engineering, Chemistry, and Physics. This committee forwarded an exhaustive report on all material, &c., that was available; and both the Board and staff assured the Minister that every opportunity would be readily given to carry out any work that might be of use to the Government. At a meeting of representative engineers and manufacturers in Wellington the Professor in Charge of the School of Engineering was appointed Chairman of the Munitions Committee for New Zealand. The Board granted the use of the plant and buildings for the necessary experimental work, and this was carried on during the long vacation. It was found, however, that munitions could not be manufactured in sufficient quantities to make an appreciable difference in augmenting supplies without seriously interfering with the ordinary productions of the railway workshops for material absolutely necessary for the transport service of the Dominion, and it was recommended that all energies should be devoted to carrying on the various industries connected with the food-supply. Thus the experiments, which had been of no little value, were discontinued. It being decided to discontinue the manufacture of high-explosive shells, &c., the special appliances and gauges used in such manufacture were deposited in trust with the School of Engineering, provided great care was taken in the storage so that they would suffer no deterioration. These, representing, as they do, examples of the highest class of workmanship in the Dominion, will be of very great value in the technical education given in the School of Engineering.

In the University examinations two students obtained their degree B.E. (civil) and two that of B.E. (electrical); while, one, three, and seven passed respectively the third, second, and first year's Professorial Examination, and five were successful in the Engineering Entrance Examination.

*School of Art*.—It is extremely encouraging to note that each year the attendance at the School of Art increases, as giving clear indication that the people of the city are recognizing more and more the educational value of the institution. Though very good work has always been done at the school, each year shows an advance, judging by the successes obtained and the reports on the work exhibited by those well able to judge.

As will be seen from the Director's report on the work of the year, the landscape classes have grown so much that it was found necessary to rearrange the time-table so that three classes, each containing about twenty students, could be instructed. This increase has not in any way affected the attendance at the classes set apart for life and still life.

Satisfactory arrangements having been made with the Master Painters' Association, a class, with a course of instruction extending over five years, has been established for apprentices, and the employers have agreed to allow these to attend day classes. This must prove of very great value, especially if the Education Department make attendance at evening classes compulsory. If this is done and the support of the master painters is continued, as good results will be obtained

in this section as have been obtained by the recognition of the architectural section by the Canterbury Branch of the New Zealand Institute of Architects. In this section the Director reports that excellent results have been obtained.

It was disappointing that the Government could not see its way to grant a pound-for-pound subsidy to enable the Board to make additions to the buildings. In the place of these additions the Director made suggestions for structural alterations in the present building. These were approved of and completed in time for the assembling of the classes in 1916. A great improvement in the accommodation has thus been made, but if the attendance continues to increase it may yet be found necessary to make additions to the buildings.

The thanks of the Board are due to Mr. Hurst-Seager for continuing to devote so much of his time as honorary lecturer in architectural history, giving a course of lectures which are not only of value to the students in architecture, but are much appreciated by others who are at present not entering upon the professional course.

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

The attendance at the School of Engineering has been greatly affected by the war. It is gratifying to find that the senior students have fully realized their duty, and have gone almost in a body to the front, no less than thirty-two matriculated and forty-two extra-mural students having enlisted from the School of Engineering since the beginning of the war, a total of seventy-four from a roll of but 148. Many have obtained commissions, some in the Royal Engineers, some in flying corps, whilst some are engaged on important technical work. The number of old students now fighting is large.

Owing to the large number of men who have left for the front the Engineer-in-Chief, Public Works Department, found himself unable to grant leave to civil engineers to attend at the School of Engineering. The mechanical engineering cadets of the Railway Department have gone to the war. From the electrical engineering branch of the Public Works Department three students attended first year's lectures. The number of individual students was 120, and the hour attendances per week were 912, a decrease of eighty-one on those of the previous year.

Twenty-five matriculated students were studying for the University degree or the associate-ship of the School of Engineering, and in addition there were twelve matriculated students taking their preliminary year at the College, a total of thirty-seven matriculated engineering students. Twenty-eight lectures per week were delivered, and instruction was given for 117 hours per week in drawing, experimental work, and field-work.

At the University examinations of 1915 two students passed the final examination for the degree of B.E. (civil). The degree of B.Sc. in engineering (electrical) was conferred upon one student on the completion of his practical work. One student passed the final examination in electrical engineering (old course). One student passed the third professional examination in electrical engineering (old course). Three students passed the second professional examination for the degree of B.E. (civil). Seven students passed the first professional examination for the degree of B.E. (civil), whilst five students passed the Engineering Entrance Examination.

At the College the Associateship Examinations of 1915 one student passed in pure mathematics, A; in spherical trigonometry, three; physics, A and B, one; applied mechanics, five; elementary strength of materials, seven; theory of workshop practice, one; hydraulics and pneumatics, one; steam-engine (elementary), eight; steam-engine (intermediate), one; applied electricity, two; surveying (elementary), one; freehand mechanical drawing, one; descriptive geometry, four; mechanical drawing (first year), seven.

Fifty-seven certificates were awarded to extra-mural students who attended lectures and passed examinations in the following subjects: Freehand mechanical drawing; descriptive geometry and setting-out work; mechanical drawing, section I; mechanical drawing, section II (mechanical); mechanical drawing, section II (electrical); mechanical drawing, section III (mechanical and civil); steam-engine (elementary); applied mechanics (elementary); applied mechanics; strength of materials (elementary); surveying (elementary); building-construction; electrical engineering (elementary) (C.C.); electrical engineering (elementary) (A.C.).

During the year tests were made in the engineering laboratories on aluminium cable, electrical meters, electrical motors, pressure-gauges, coal, granite and other building-stones. A brake test was also made of a 30 horse-power suction-gas plant.

At a meeting of representative engineers and manufacturers called at Wellington in September, 1915, by the Minister of Munitions, the Professor in Charge was appointed Chairman of the Munitions Committee for New Zealand, and the Board of Governors of Canterbury College, having expressed its willingness to permit the use of its buildings and plant for the furthering of the manufacture of munitions, a large amount of experimental work was carried on in the laboratories of the School of Engineering during the long vacation. This comprised: (1.) A series of physical tests to determine the best steel for use in the manufacture of sword-bayonets locally. A special high-silicon manganese steel imported for the construction of spring tine harrows proved suitable. Much assistance was here given by Dr. Evans, Professor of Chemistry at Canterbury College, who made analyses of the material. (2.) The preparation of complete drawings and specifications for the manufacture of sword-bayonets and scabbards. (3.) The designing and preparation of working drawings for the master gauges, working gauges, and blade-testing apparatus required for bayonet-manufacture. (4.) The supervision of the finishing, and the testing of the above gauges. (5.) The carrying-out of a series of physical tests on shell steel imported from Australia. (6.) The supervision of the finishing and the testing of complete sets of the master, working, and inspection gauges required for the manufacture of 18 lb. high-explosive shells. The measurements were made to one ten-thousandth part of an inch, and it may be mentioned that practically all

the appliances of the Strength of Materials Laboratory were utilized in the above work, which could not have been proceeded with had the laboratory and its equipment not been available. Experiments were also made in the Electrical Engineering Laboratory on the electro-deposition of copper driving-bands. By means of a modified Cowper-Coles process very satisfactory results were finally obtained.

It was considered desirable under present circumstances to restrict expenditure in additions to plant. The larger items were those ordered before the beginning of the war. The addition comprised of a 25-kilowatt generator, a 10 h.p. electric motor, a switchboard and connections and a line of shafting, all in the Pneumatics Laboratory; a quieting-screen, weighting-tanks, and an excellent theodolite.

ROBT. J. SCOTT, M.Inst.C.E., Professor in Charge.

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

The number of individual students in attendance during the three terms were—First term, 379; second term, 404; third term, 391.

The exhibition of students' work was held during February. The exhibits were arranged in the various rooms in the school, and during the week the exhibition was open a large number visited the school. The Press gave several reports on the advancement of the work of the school. The exhibition is now looked upon by the public of Christchurch as one of the important art events of the year. In connection with the Arts and Crafts Exhibition held at the Art Gallery, the school exhibited a collection of art-craft work, including jewellery and enamelling, silversmith's work, wood-carving, embroidery and lace. A first-class diploma was awarded to the school for its combined exhibit.

*Drawing and Painting Department.*—Instruction was given in drawing and painting from life, still life, and landscape. Life classes were held twice daily during the session. The landscape classes have grown to such an extent that it was found necessary to establish three classes weekly, each of which had an average attendance of twenty students. Landscape forms a most important part of the work of the school, and it would seem that a complete course extending over the full week will be necessary.

*Artistic Crafts Department.*—Sound work has been done in this department during the year. All the day students attended the full course, which comprised the study of plant and other natural forms, the principles of ornament, applied design, modelling design, and one or more of the following crafts: Jewellery, enamelling, silversmithing, carving, stained glass, tooled leather, embroidery and lace. During the year life classes for modelling have been held, and creditable work executed. The evening trade modelling classes have been well attended. The signwriting class has done good work. Towards the end of the year the Master Painters' Association and the Painters' Union of Canterbury decided to transfer the painters' classes from the Christchurch Technical College to the School of Art because of the advantages offered at the latter institution for the study of colour, drawing, and design. A five-years course of study has been drawn up, including both the study of art and the practical side of the trade. The masters have agreed to allow apprentices to attend day classes. The course will come into operation during 1916. With the support of the trade there is every prospect of the course proving as successful as the course in architecture has proved since the Canterbury Branch of the New Zealand Institute of Architects made the classes at the School of Art compulsory for apprentices in the architectural profession.

*Architectural Department.*—Excellent work has been done in this department since the diploma course was established in 1914. The full course extends over three years, part of which is taken at the School of Engineering. During the year a course of lectures on the history of architecture was given. A committee of the Institute of Architects examined the studies and awarded the certificates in connection with the diploma course.

Teachers' classes were held on Saturday mornings and on Monday evenings, the subjects of instruction being free drawing, instrumental drawing, blackboard drawing, mass drawing, modelling, and craftwork. A special class was held at the request of the Kindergarten Association for drawing and illustration in connection with kindergarten teaching. Members of the school staff conducted classes in drawing and colour-work at the Training College for teachers, also classes in drawing and woodwork at the Boys' High School, during the year.

In connection with the National Competition amongst schools of art in Great Britain, this school was again successful in obtaining several commendations for work, comprising drawing and painting from life and still life. The usual local examinations were held at the end of the year. Two scholarships, valued at £25, and eleven scholarships carrying free tuition, were awarded to students of the day and evening classes. The Students' Association has continued its good work throughout the year. Monthly meetings have been held, all of which have tended to improve the social side of the school. The number of teaching appointments obtained by students during the year has again been most satisfactory. These include—Instructor in drawing and painting from life, "Elam" School of Art, Auckland; instructor in artistic craftwork, School of Art, Dunedin; art teacher, Ashburton Technical School; teacher of drawing, Auckland Girls' High School; teacher of drawing, St. Margaret's College, Christchurch; teacher of drawing, Miss Sanders's Girls' School, Christchurch.

It was a keen disappointment after years of careful management to find that the Government were unable to subsidize the balance of £1,200 acquired by the school for the much-needed additions to the building. It is distinctly encouraging to hear that the Board have decided to spend the balance in carrying out a modified scheme of alterations and additions to the building, and that the work will be put in hand before the commencement of next session.

The students have given up a good deal of time and labour to work for the various war funds. An art union was held during the year, and as a result £90 was handed over to the Belgian and Patriotic Funds. A number of large posters were executed for the Citizens' Defence Corps, and the students have also assisted in the various street collections for the war funds. Some twenty-five students of the school have joined the colours during the year.

Thanks are due to Messrs. J. W. Gibb and Hammond and Co. for special prizes, and also to Mr. W. H. Montgomery and Mr. William Reece for valuable prizes for a recruiting poster and a study of a sleeping child, and to the executors of the late Mr. William Sey for prizes in connection with the painters' classes; also the Canterbury Branch of the Institute of Architects for prizes and for acting in connection with the examinations; also to Mr. S. Hurst-Seager for a valuable collection of framed photographic enlargements of architectural examples, and for acting as honorary lecturer in architectural history.

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, A.M., F.S.A.M., &c., Director.

## SOUTH CANTERBURY.

### EXTRACT FROM THE REPORT OF THE DIRECTOR OF TECHNICAL EDUCATION.

Special classes for teachers were conducted in Timaru from May to October. The subjects taken were agriculture, theoretical and practical; drawing, modelling, design, and colour work; hygiene; physiology and ambulance-work. The agricultural class was well attended, the average attendance for the session being forty. The course of instruction included a scheme of work suitable for carrying out in connection with the school-garden movement. The theoretical work included a course of instruction required for the D and C certificates. Special instruction was given in pruning, spraying, grafting, budding, &c. The practical instruction was taken at the Main School gardens and at the Park, where the curator kindly gave some useful demonstrations. In view of the prominence that drawing and colour-work now occupy in the new syllabus, the classes in drawing, &c., were exceptionally well supported. The teachers and pupil-teachers who attended all worked enthusiastically, and seemed to be anxious to take advantage of the opportunities offered. At the request of the Teachers' Institute a course of lectures explaining the drawing syllabus was arranged for. Three comprehensive lectures dealing with the requirements of the syllabus in drawing, design, and colour-work were given. The lectures, which were profusely illustrated with designs and charts, were attended by about a hundred teachers, all of whom were deeply interested, and no doubt the instruction given will have a beneficial effect on the school-work of the district. Pupil-teachers also received special instruction in drawing and physiology and ambulance-work. A class for dressmaking was most successfully carried on at Hannaton for two terms. For the first time in its history technical and continuation classes were carried on at Geraldine: these were confined to ambulance, book-keeping, and dress-making. All of these classes were a success, principally through the energy and enthusiasm displayed by the Director, who succeeded in arousing a great amount of interest throughout the district. The classes are now on a good footing financially, and technical education should show development in Geraldine in the near future. During the year the sum of £51 17s. was collected as voluntary contributions.

During the year technical and continuation classes were carried on under Managers at Fairlie, Pleasant Point, Temuka, Waimate, and Timaru, and notwithstanding all the adverse circumstances of the year the interest in the work seemed to be as keen as ever. The courses of instruction at each centre were all on the same lines as in previous years; most interest centred round the commercial and domestic courses of instruction, and the instruction given in connection with agriculture, sheep-shearing, wool-classing, &c. The technical schools in the district seem to be doing good work and increasing in popularity year by year; their finances are also in a solid condition, thus proving that they are meeting the needs of the localities they serve, as they depend for their existence on the voluntary subscriptions received. The instructor in agriculture, on behalf of the Farmers' Union, delivered several lectures throughout the district on the principles of agriculture and horticulture.

In conclusion, I have to state that all operations carried out under the Regulations for Technical Instruction during the past year have been carried out harmoniously: there was no hitch. The teachers have been ever ready to adopt the latest methods and co-operate loyally in carrying out the work. I have also to state that all applications and claims have been met by the central Department with promptness and fairness.

RITCHINGS GRANT, Director.

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

The year just concluded celebrates the fifteenth year of the association's existence. The session started on the 15th March, and the evening classes had all finished by the end of November, but some of the day classes were carried on till the middle of December. Altogether 347 individual students joined the school during the year. This is the smallest number we have had for some years. No doubt this fact is largely due to the disturbing influence of the present national struggle, some of the classes having suffered considerably on this account. These 347 students were taught in thirty-four recognized classes by twenty different instructors, as

follows: Commercial English—senior 55, junior 55; commercial arithmetic—senior 57, junior 56; book-keeping—senior 45, junior 44; shorthand—advanced 13, senior 14, junior 48; typing (four classes), 85; painting, 14; electricity, 10; wool-classing, 19; plumbing, 8; drawing, 24; dressmaking (three classes), 58; woodwork (two classes), 36; cookery (three classes), 59; millinery, 11; wood-carving, 4; building-construction, 7; Standard VI work, 7; sheep-shearing, 12: making a total of 741 class entries for all classes. The commercial and wool-classing classes carried on in connection with the high schools are not included in the above figures.

One hundred and forty free students joined the school during the year, eighty-nine junior and fifty-one senior. Considering all things, these students attended well, and there were very few who did not meet the requirements of the syllabus in that respect. So far it has not been found necessary to introduce the compulsory section of the Act in Timaru, as nearly all eligible pupils take up free places voluntarily, and it is to be hoped that this state of things will continue, because it is found in other places that compulsion brings in undesirable students. Year by year, however, the influences to distract young people's attention from their work seems to be on the increase. Last year also we suffered a good deal through the scarcity of adult labour: many of the lads working in warehouses had to go back to work in the evenings to assist with the stock-taking, &c.

The same definite courses of instruction were undertaken last year as have been carried out in previous years. The courses carried out were a domestic course, a trades course, a commercial course, and an art course. The domestic course, consisting of English, arithmetic, dressmaking, millinery, cookery and domestic economy, was very well attended, and it is gratifying to note that the interest in this course is increasing year by year, thus proving that we are providing something of practical value to the community. The commercial course, consisting of English, arithmetic, book-keeping, typewriting, shorthand and commercial correspondence, always brings out the largest number of students; this course provides the greatest attraction on account of the great number of openings nowadays for boys and girls in the commercial line. We have also always been very fortunate with regard to the teaching staff for these subjects. The interest taken in the course by the South Canterbury Chamber of Commerce and the South Canterbury Branch of the New Zealand Society of Accountants also gave a fillip to the work. These two associations presented a gold medal and a certificate as a first prize for the best student, a book and a certificate as a second prize, and a certificate as a third prize. Only third-year students were eligible to compete. A commercial course was also carried on for girls attending the High School. The trades course was only fairly well attended: this was largely due to the fact that many of the students are on active service. There was a substantial increase in the number of students attending the art course in both the elementary and the advanced classes, and some very fine work was done, the life class being particularly well patronized.

Two hundred and seven students took up work in one subject only or attended classes in unrelated subjects. These are mostly students who cannot find time to devote to a course of study. Plumbing, which has been a very successful class here for many years, shows marked signs that the supply of students is running out. Wool-classing was again a very popular class, and although it, like others, suffered somewhat, still there were sufficient students to form two good classes. The instructor continues to treat his subject in a businesslike manner, both from the commercial and the scientific standpoints, and year by year we have more and more direct evidence that the course of instruction given is proving of great value to the district. The Timaru Agricultural and Pastoral Association has a class for wool-classing on its schedule. This class was well patronized at last year's show, and a practical demonstration of the capabilities of the students was given. A class was again carried on for the benefit of boys attending the High School. About twenty boys attended this class, all of whom showed a keen interest in the work. Through the courtesy of the Christchurch Meat Company a class for sheep-shearing was again carried on at the Smithfield Works. To try and secure, if possible, a better supply of sheep the class was started three weeks earlier than in previous years, but the climatic conditions were unfavourable, and the supply of sheep offered so small that the number of students had to be restricted to twelve: even then the supply of sheep was barely sufficient for our needs. The students were all of an excellent type, and made rapid progress. Mr. Bernard Tripp, on behalf of the Sheep-owners' Union, examined the work of the students, and on his recommendation it was agreed to grant certificates of proficiency to the twelve. The Managers look on this class as one of the most important that it carries on, as the number of youths that are thus put on the road to become expert shearers must form a valuable asset to the farming community of the Dominion. Most of the students have gone out to sheds, where they have given a good account of themselves.

At the close of the session examinations were held in the different subjects taught at the school, and certificates were granted to successful candidates. On the whole the reports of the examiners were quite satisfactory. Twenty-three students sat for the Senior Free Place Examination, and they were all granted a pass by the Education Department. The Technical Inspector, Mr. E. C. Isaac, visited the school in September. He stayed for a week and saw all the different classes at work. His report on the working of the school is extremely favourable. Amongst other things he states that the whole of the class-rooms and workshops are in excellent order and condition, and that the order, discipline, and conduct of the school are most satisfactory.

In accordance with the Act, fourteen Managers were elected to represent the different contributing bodies to the funds of the association. During the year the Managers met eight times, and generally attended to all matters pertaining to the welfare of the school. Visiting committees were appointed each month, and these committees paid official visits to the classes whilst at work and reported thereon.

The buildings and apparatus were kept in good order and repair throughout the year. It will be necessary before long to have the whole school painted and the different rooms distempered and done up afresh, but it has not yet been decided what body is responsible for the upkeep of the building. Thanks to the liberality of the Agricultural Department, a very valuable exhibit of eighty lock specimens of wool has been added to the equipment of the school. A very fine turning-lathe for use in the electricity class has also been provided.

The funds of the association are still in a sound healthy condition. To bring this about the Managers have had to practise the strictest economy during the year. The amount collected in fees was £45 less than was collected for the previous year, and on account of the war no canvass was made for voluntary contributions. The loss sustained by both of the items makes a big difference on the receipt side of the balance-sheet.

Considering all the circumstances the year's work must be deemed highly satisfactory, notwithstanding the strenuous time we have all been passing through, and the diligence and general behaviour of the students have been quite exemplary. We cannot close this report without making some reference to our brave fellows who have gone to the front. Like all institutions of this kind a number of ex-students are serving with the Expeditionary Forces, and many of them are among the killed, missing, or wounded. To the sorrowing relatives and friends the Managers tender their deep and heartfelt sympathy.

The Managers would like again to accord a comprehensive vote of thanks to all those who contributed in any way during the past year to the success of the school—to the Press, who always loyally support the school and are ever ready to help on the cause of technical education in the town; to the teachers—the whole success of the school depends on the instructors who are available to carry on the different classes, and Timaru has been very fortunate in this respect in the past, as most of the instructors are experienced teachers who are quite willing to help with the work for a very small remuneration. The Managers also desire to acknowledge with thanks the prompt attention of the central Department to all claims and applications made during the year.

GILBERT DALGLISH, B.A., Chairman.

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

Early in the year Mr. M. McLeod, B.A., resigned the Chairmanship of the Technical School Board, and Mr. George Cartwright was elected in his stead. Mr. McLeod had filled the office of Chairman for about eight years, taking keen interest in the classes and devoting much time and eager attention to their advancement. His retirement (on account of leaving Temuka to take up an inspectorship in Auckland) was a distinct loss to the Board, and a resolution testifying to the value of his services to the classes was placed in the minutes.

The following classes were held during the year: Dressmaking, three classes; wool-classing, commercial work, sheep-shearing, agriculture, painting and sketching, and ambulance, each one class; and cookery, two classes: making a total of eleven classes. This is an increase of three on the previous year. Individual pupils numbered 167. This was also an increase on the previous year, and was very satisfactory, especially considering that it was a year of war, when people's minds were to a large extent occupied with thoughts of the struggle proceeding in the Old World. The ambulance class was a ladies' one; it was well and regularly attended, the instructors and pupils being very enthusiastic. The agriculture class was a new one, and aroused considerable interest, several of the pupils being very enthusiastic. However, it is a class that should be much more largely attended, seeing that it is held in the centre of one of the finest agricultural districts in the Dominion, and those who lectured and demonstrated were men of great experience and specialists in the subjects dealt with. It is an extremely useful class, and we hope to see it much larger this year. The sheep-shearing class was again held in Mr. S. McCully's shed, and was very successful. That the pupils were keen on their work was shown by the fact that several came long distances to attend it, even from near Timaru. Thanks to Messrs. McCully, Cartwright, Gudex, Seaton, and others, the Board were able to get the number of sheep required to keep the pupils engaged. Towards the end of the course the shed was thrown open to visitors. A very large number of farmers and others interested attended, and expressed themselves as more than satisfied with the progress made by the pupils. The wool class was attended by a good stamp of student—young men who appeared determined to master this interesting and remunerative calling. Very good work was done. As in former years, a fine lot of wool was provided by Mr. John McInnes, whose loyalty to the school is so well known. Mr. H. Bell, a former member of the Board, was able to obtain another stud fleece for the class, and the Department of Agriculture has notified that it is sending us a sample exhibit of wool similar to that shown by the Dominion at the Panama Exhibition. This will be a very valuable addition to the wool-room appointments. Several students took part in the wool-classing competition at the Timaru Agriculture Show, two of them carrying off prizes. During the year the Department made a grant of £83 for an addition to the wool-room, and this work has been completed. It is safe to say that the room is now one of the most convenient, up-to-date, and well-appointed wool-rooms in the Dominion. The dressmaking classes were among the largest and most popular of those held. One of the students sat last year for the City and Guilds of London Examination and secured a first-class pass. She has since obtained an appointment as dressmaking instructress under the Ashburton Technical School Board, and is proving a very successful teacher. While it may be said that the commercial and painting and sketching classes were successful, they were not nearly as large as they should be, and we hope to see a much larger number on the roll this year. The lack of students was no fault of the instructors.

The Board's thanks are due to our teaching staff for their loyalty, interest in their work, and unfailing courtesy; also to the local bodies and private persons for their continued support

in such anxious times. It would materially aid the Board if the local bodies could see their way to increase their grants, as it would justify them in getting a little clerical assistance for the purpose of attending to details, which in the management of classes of this nature is very important. There will probably be a dearth of male students next year, as the district has sent so many young men to the front; but the Board trusts to be able to keep the school going, and if students come forward they will make an attempt to introduce group courses and free places. We hope that the Department will be sympathetic in the Board's endeavours to continue the work of increasing the efficiency of our young men and women. It is gratifying to note that the finances of the Board are in a perfectly sound condition, although it would be well if they could be further strengthened.

GEO. B. CARTWRIGHT, Chairman.

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

Throughout the year classes have been conducted in wool-classing, sheep-shearing, dress-making, cookery, carpentry, and shorthand. The wool-classing class was attended by thirty-nine students, including eleven secondary pupils from the District High School, and excellent work was done. A class for blade shearing was also held, thanks to the kindness of Mr. E. Studholme in again allowing us the use of his shed, and to the liberal donations of the Sheepowners' Union and the Waimate Branch of the Farmers' Union. The class was attended by eleven students, who did very good work. The course was interrupted by the Timaru and Waimate shows and by wet weather, so that we only had some thirteen days' work during the three weeks; but the class sheared over 1,600 sheep to the complete satisfaction of the farmers who supplied them. Five classes in dressmaking were held—three at Waimate, one at Morven, and one at Makikihi—with a total of ninety-eight students. The attendance at these classes was very good, and excellent work was done. The attendance at the cookery class was very poor, considering the importance of the subject and the excellent teachers provided. Only ten students attended, but the work done and the attendance was all that could be desired. The class for carpentry was a great disappointment, only five students attending, but the quality of the work done by these few pupils was far above the average. The shorthand class was also disappointing, there being only five students.

Our finances are in a sound condition, and we hope next year to have better attendance at the classes.

ERNEST HASSALL, Chairman.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE PLEASANT POINT TECHNICAL CLASSES.

Owing to the war and the great interest taken in Red Cross work generally, the amount of technical work done has not been so great as usual. A very successful dressmaking class was held, but attempts to conduct a cookery class were not successful. During the year arrangements were made for the painting of the building. When the work is completed the general appearance of the school will be more in keeping with its surroundings. The laboratory has been remodelled on up-to-date lines, and is now much more suitable for carrying on the work required in agricultural chemistry, &c.

J. MAZE, Chairman.

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

The session commenced in April and terminated in October. The subjects of instruction were dressmaking (twenty-eight pupils, including a branch class at Albury), wool-classing (thirteen pupils), and first-aid and ambulance (twenty-nine pupils). The Technical School has also been utilized for public-school classes in cookery and woodwork. On the whole the classes have been well attended. Particular mention may be made of the Albury branch, where 80 per cent. of the pupils made the maximum number of attendances at the dressmaking class. Praise is due to the instructors for the enthusiasm they displayed and successfully instilled into their pupils. Under the auspices of the St. John Ambulance Association examination of the students of the ambulance class was held, with the result that twelve certificates were awarded.

The thanks of the Managers are due to the Mackenzie County Council, the Fairlie Agricultural and Pastoral Association, and to private subscribers for monetary assistance given to the school.

CHAS. J. TALBOT, Chairman.

## OTAGO.

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

The total number of students to whom tuition was afforded was 535, made up as follows: Day students, 88; evening students, 162; town pupil-teachers and probationers, 69; junior students in training, 65; senior students in training, 45; country pupil-teachers, 39; country teachers, 67. The number of male students was 194, and of female students 341.

The war was undoubtedly responsible for a considerable reduction in the numbers of both day and evening students. In some classes the majority of the young men enlisted, and others unable to do so were too sensitive to attend classes in which the prevailing sentiment was "Off to the front." Next to the University the School of Art has probably suffered most in this respect, since the majority of its students are of ages ranging between eighteen and twenty-five. Nor was the effect confined to male students: the Queen Carnival and the various patriotic associations made an almost greater claim upon the time of the lady students, affecting not only the number joining but the average attendance of students on the roll. The Mayor of Dunedin



asked for posters to assist in the recruiting movement, and the staff and students responded with enthusiasm. The usual extensive 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. On the whole the interest of the students was as well maintained as could be expected. The art-craft classes were fairly attended during the day, and some excellent work was done in all branches, more especially in modelling. The departure of the instructor for the seat of war unsettled work in this department during the latter portion of the year, but satisfactory arrangements were made for carrying on the work during the period intervening between his departure and the appointment of a temporary instructor.

Elementary instruction in free drawing, brush and colour work, design and simple original stencil-work was afforded to juveniles at a convenient hour. The attendance at these classes could be much increased by a little encouragement from teachers in city schools. The fee is nominal, and the capitation earned is nil; but they serve the useful purpose of initiating young people into an art atmosphere, thus making them possible future art students. The classes for pupil-teachers and probationers was well attended, and much solid work in preparation for the D examination was done, apparently with good results. The students in training had a course of study provided which included free drawing from objects both natural and fashioned, memory drawing, light and shade, brushwork, plant and animal form, instrumental drawing, and blackboard illustration. On Saturday mornings teachers outside Dunedin were enabled to take a course of study in drawing and handwork. Modelling in clay and plasticine, wood-carving, design, stencilling, &c., were the principal handworks taught, while in drawing much stress was laid on the representation of objects through mass estimation in different media of expression. A series of lectures on "Drawing in schools and the new syllabus" was delivered, and the capacity of the largest room in the School of Art was severely tested by the number of town teachers who were present. So much interest was taken in the Director's explanation of the aims of the present syllabus and the steps necessary for the proper provision of instruction to satisfy its requirements, in spirit as well as letter, that advantage was taken of the presence of teachers from outlying districts in the autumn camp for physical training to repeat the lectures for their benefit. The demonstrations and detailed suggestions for work in the various divisions of the school were followed keenly by large gatherings in the Victoria Hall and in the Kempthorne Hall. Questions were answered, and teachers expressed their thanks at the opportunity provided by the ventilation of the subject to correlate and unify their efforts to deal with the subjects of drawing and handwork. Instruction in freehand, model, and object drawing, geometry, perspective, light and shade, drawing from life, painting in oil and water colours comprised the chief branches of study provided in the evening art classes. For tradesmen, courses were arranged including sign and ticket writing, drawing for cabinetmakers, mechanical drawing and machine-construction, building-construction, &c.

The architectural course was amplified by devoting the whole of one evening to each of the subjects, "History of architecture" and "Architectural design." Students take also freehand, geometry, perspective, light and shade, and building-construction—a course approved by the New Zealand Institute of Architects. The evening classes in all these courses and in the art crafts were, on the whole, well attended, though suffering from the causes already mentioned. A more determined effort was made during the year to make all students take a course of related subjects rather than isolated ones, and the result was entirely satisfactory. The annual exhibition of students' work was held in June in conjunction with the Otago Art Society. A most creditable display of drawings, paintings, sculpture, and art crafts brought eulogistic comment from the Press, and reflected credit upon the students and the staff. At the annual students' competition of the Otago Art Society we were again successful in carrying off the whole of the prizes awarded.

R. HAWCRIDGE, Director.

#### EXTRACT FROM THE REPORT OF THE DUNEDIN TECHNICAL SCHOOL BOARD.

The number of individual students attending the Technical College continues to increase from year to year. The number for 1915 was 1,581, an increase of ninety-eight. This number includes 303 technical-high-school pupils. Although the number of students entering is a matter for congratulation, the regularity and continuity of their attendance cannot always be regarded as satisfactory, and at times it seems as if the provision for free education is not appreciated to the extent it should be. The Managers are of opinion that free-place holders should be required to deposit at the beginning of each year a small fee, say, 10s., on the understanding that it will be refunded in all cases where the student makes, say, 80 per cent. of the possible attendances.

During the year the staff of the College has been considerably strengthened by the appointment of two instructors of Home training and experience. In this connection the Managers express the opinion that in the Dominion system of education provision should be made for the training of teachers for our technical schools. In the domestic and commercial branches the school has been well served by students and probationers of its own training. The regulations of the Department, however, do not mention probationers for technical schools, and thus these students in training are practically without recognition or assistance in the completion of their studies. It seems to this Board not unreasonable to ask that probationers in technical schools should, in view of the difficult nature of their work, be granted the same facilities and concessions at training colleges and universities as are afforded to the probationers and pupil-teachers engaged in the primary schools.

When mention was first made of the necessity for providing training in civil occupations for disabled returned soldiers the Managers at once gave their hearty support to the movement, and informed the Hon. Mr. Herdman, the Minister in charge of the Department, of their desire



to co-operate with him, and do all in their power to further the laudable object he had in view. The Managers have also from time to time, whenever possible, given their assistance to the various patriotic functions, processions, &c.

The work of the classes, having been fully reviewed in the report of the Director, does not, except in the engineering department, call for any special comment. In both the mechanical and electrical branches of engineering the teaching has, as a result of the appointment of instructors holding special qualifications, been placed on a much more satisfactory basis. It is found, however, that the deficiency of apparatus and appliances for laboratory work in mechanical engineering, and still more so for electrical engineering, seriously hinders the teachers in their efforts. Bearing in mind the extra financial burdens imposed upon the Government during the present crisis, the Managers have refrained from asking for grants, and are doing their best with the means at their disposal. A large expenditure, however, is still required to put the teaching of these branches of engineering on a thoroughly satisfactory footing. In conclusion, the Managers have to place on record their appreciation of the financial assistance rendered by the general public and by local bodies. To the Education Department their thanks are due for the courteous and equitable spirit in which claims made on behalf of the school have always been dealt with by the Hon. Minister and his officers.

THOS. SCOTT, Chairman.

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

The Technical High School was attended by 304 pupils, distributed over the courses and classes as follows: Domestic course—First-year girls, 34; second- and third-year girls, 17; agricultural course—first-year boys, 10; industrial course—first-year boys, 30; second- and third-year boys, 20; commercial course—first-year pupils, 28 boys, 90 girls; second-year pupils, 10 boys, 41 girls; third- and fourth-year pupils, 24 girls.

The subjects comprising each of these courses have been set out in detail in previous reports. Therefore, with regard to the domestic course, suffice it to state that the same sound practical training continues to be given in cookery, housewifery, dressmaking, needlework, laundry-work, elementary science, physiology in connection with hygiene and first aid, together with regular instruction in drawing, household accounts, and English. Second-year pupils of this course have scope for the development of their individuality in table-decoration, in table-setting, and in the serving-up of luncheons and dinners. Further, the provision available for instruction in housewifery and house furnishing and decoration enables the instructors to instil fundamental principles regarding the selection and equipment of a home. In the agricultural course no further development has taken place, the programme of work being the same as that followed in 1914. The science lessons in this course will hereafter be on more practical lines. A plot of ground for experimental work, however, is an urgent necessity. The industrial course, designed to give a preliminary training suitable for lads destined to become handicraftsmen, continues to attract a large number of the lads entering the Technical High School. Most of the pupils of this course have a preference for engineering, and, judging from the remarks of employers, I gather that lads who have taken the course are found on entering the workshops to be not only more skilful in the use of tools, but also alert in comprehending instructions and following directions. The staff of the industrial course was greatly strengthened by the appointment of a teacher from the Heriot-Watt College, Edinburgh, who at the beginning of the year took charge of the engineering department.

The commercial course continues to attract the larger proportion of the pupils attending the Technical High School, and the support accorded this branch of the work has enabled the College authorities to engage a very strong teaching staff of specialists. I have again to report that young people who have passed creditably through a two-years commercial training in the Technical College are regularly sought by business firms. It frequently happens, however, that commercial pupils, either on the reputation of the College or through the influence of friends, secure positions before completing the course, with the result that they thereafter learn special work at the expense of their employers, while their general education is neglected. This premature withdrawal of pupils not only from commercial work, but from all the courses of training is a serious practical hindrance to the full development of our recently established technical high schools. For these schools splendid buildings have been erected, full equipment provided, and the services of competent instructors secured. It is true hundreds of pupils enrol, but the great majority of these, before working half-way through the courses, depart, and their places are taken by others who do likewise. Thus valuable educational work is entered upon but not completed, and consequently the appreciable effect upon the general community is small.

The evening classes were attended by 1,277 individual students. The classification of these students was as follows: Junior free pupils, 209 males, 76 females; total, 285. Senior free pupils, 100 males, 73 females; total, 173. Other than free-place pupils, 355 males, 444 females; total, 799. Scholarship-holders, 15.

Last year the length of the session was increased from twenty-seven to thirty-six working-weeks, provision being made for three terms, instead of for two as in previous years. Owing, however, to unusual causes of interruption—patriotic gatherings, carnivals, &c.—the year was rather a broken one, and did not afford any reliable indication of the effect of the experiment. The commercial classes receive most support, and a satisfactory feature of this branch of the school work is that students, with few exceptions, attend grouped courses of instruction—that is, they receive tuition in two or more allied and dependent subjects—commercial arithmetic with book-keeping, English with commercial correspondence, shorthand with typewriting, &c. The domestic department continues to maintain its reputation, and not only are the classes for cookery, needlework, dressmaking, laundry-work, physiology, and hygiene well attended, but our teachers also

conduct large classes at the convents, private schools, and Y.W.C.A. rooms. Further, the University students of domestic science receive their instruction in cookery at the College, while our senior students are prepared in cookery and dressmaking for the examinations conducted under the auspices of the City and Guilds of London Institute. Last year fifteen students passed these examinations in one or other of the subjects mentioned. The attendance at the engineering course and at the trade courses generally was seriously affected by the war, but it should be added that the smaller number of students in these classes tended to more efficient work. Under the guidance of the new instructor the engineering course was remodelled on lines beneficial to students of the theoretical and experimental classes, and it is anticipated that equally satisfactory results will follow the appointment of the instructor of practical electrical and mechanical engineering. The work of the other classes does not call for any special reference, but it should be noted that a new class was formed for pattern-cutting for bootmakers, and also that the class for commercial law was again opened after having been closed for several years. The continued success of the evening classes is in a large measure due to the energy and enthusiasm of the teachers. For trade classes and commercial subjects it is sometimes found necessary to employ instructors without previous teaching experience, and, although these are not all equally gifted with controlling-power, there is no question that all are actuated by the highest motives—to work in the interests of the students. During the year three instructors having joined the Forces for active service, resigned their positions on the staff. Large numbers of the College students and ex-students are also at the front.

ANGUS MARSHALL, Director.

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

The Managers beg to report that the work of the school has gone on very successfully during the year notwithstanding the general disturbance caused by the war. The attendance at the continuation and commercial classes was fully maintained, while the dressmaking, millinery, and wool-classing classes were well supported. The Managers deplore the scarcity of male apprentice students; this, however, cannot be helped, the trades and crafts operating in this town being so few in number. Until there is an increase no improvement can be looked for. Notwithstanding this, the total attendance at the school was in excess of the previous enrolment. The thanks of the Managers are tendered 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 CLASSES.

During the year successful classes in wool-classing were held at Milburn and Moneymore under the direction of the Otago Education Board's instructor. Each class had a roll of seventeen. The attendance at both classes was excellent, the former averaging 95 and the latter 97 per cent. The Managers are pleased to note the practical form of support given by the Tokomairiro Farmers' Club to this branch of education in having conducted in connection with their annual summer show a wool-classing competition confined to pupils of the technical classes. Over thirty pupils competed, and the judge expressed himself as highly pleased with the classing done. The painting class ran for two quarters, with a roll of eleven each quarter. The possible attendance was registered. A class for copper and pewter work was successfully carried through, with a roll of eleven. The attendance averaged 90 per cent. The balance-sheet shows a small gain on the working of the classes for the year.

J. R. LAING, Secretary.

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

Considerable progress has been made during the period from March to December, 1915. Studholme House was opened on the 7th March, 1915, so that it has run for one full session. In spite of the increase of the price of nearly all foods during the year, I have a satisfactory balance to report. We charge the very moderate sum of £1 per week to all students, and we have not increased this charge in spite of the increase in price of all commodities, including coal, cleaning-materials, kitchen utensils, crockery, &c. Another still more satisfactory fact is that there have been no cases of illness at the hostel, with the exception of one case of measles, which was contracted by a student on her journey down to Dunedin at the beginning of the session.

There is a considerable increase in the number of students this year. The hostel is full to overflowing, and I have had to make arrangements for eleven students to have bedrooms outside, though most of them come to us for meals, and share the common room, the library, and all the advantages of the common life of Studholme House. During 1915 twenty-seven students were studying for either the degree or the diploma in home science. This year at least thirty-five will take one of the full courses, and this does not include students who take single courses of work.

Eight students completed their work last year. Five have qualified for the degree and three for the diploma. All have obtained satisfactory and well-paid work, and, indeed, it would have been possible to put more students into posts had any more been qualified. I am receiving excellent reports of the work being done by the majority of those students who began to teach last year. Miss Jean Robertson (diploma) has been appointed at the Wellington Girls' College as assistant at a salary of £160; Miss A. Aitken (degree), as science mistress at New Plymouth High School (salary, £180); Miss E. Cornish (diploma), domestic-science mistress at Wanganui Girls' College (salary, £150, resident). Miss Lesbia K. Wilson (degree) is working under the Wellington Education Board, and teaching science and cookery in several district high schools (salary, £160). Miss G. Armstrong (diploma) is organizing needlework, laundry-work, cookery, and science classes at Masterton Technical School (salary, £150). Miss C. S. White (diploma)

is domestic-science mistress for science and cookery to Christchurch High School (salary, £160). Miss C. R. Stevenson (diploma) has been appointed to the Ashburton High School, and Miss Isabel Watt is assistant at Timaru. Miss Strack is at present undertaking temporary work at Hawera District High School. Miss Sandilands (diploma) has been appointed as cookery, needlework, dressmaking, and science teacher at Gisborne, the appointment to last as long as the war lasts. One other appointment has been made for next year, although the student has not yet completed her course. Thus all our students are doing good and satisfactory work. Two students have decided to give up teaching, and have returned home, where they are needed. The Education Department has decided to recognize the home-science diploma, as well as the home-science degree, as qualifying for one-year studentships at training colleges, with allowances at the rate of £40 a year, together with the fees of the University College classes attended by the student with the approval of the principal, with the further addition at the rate of £25 a year in the case of any student living away from home. This will enable some of our students to get satisfactory teaching experience and instruction in methods of teaching before seeking posts.

The accounts of the home-science department show a very satisfactory credit balance. The estimated balance for the year ending 31st March amounts to £1,079.

W. L. BOYS-SMITH, Dean.

## SOUTHLAND.

### EXTRACT FROM THE REPORT OF THE DIRECTOR OF TECHNICAL INSTRUCTION.

Classes for instruction in wool-sorting were carried on successfully at four country centres—viz., Nightcaps, Orawia, Clifden, and Mataura Island. In two other districts a commencement was made, but owing to sufficient support not being forthcoming the classes had to be discontinued. Though the roll numbers, owing to the drain upon the country's manhood, were not as large as in previous years, yet the attendance of students was very satisfactory, and evidence was not lacking that the members of the various classes highly appreciated the value of the instruction imparted. At Riverton a large and successful class in cookery was carried on under the capable direction of one of the Board's manual-training staff. Of the other centres where evening classes at one time were held Greenhills alone was able to continue this year; but even here, in spite of all the enthusiasm of the instructress, it was possible to carry on only one class, that in drawing. Year by year it has been found increasingly difficult to maintain interest in evening classes in country centres, though no doubt the falling-off in this respect this year may largely be ascribed to the troublous times we have been passing through. In conclusion, I have to acknowledge the fairness with which the Education Department has met all claims sent in, and to the Inspectors and the Secretary a word of thanks is due for the kindly assistance extended to me at all times.

R. BROWNIE, Director of Technical Instruction.

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

The Builders' Association and the Farmers' Union were represented for the first time on the Board, and all bodies that had previously contributed renewed their contributions.

The Technical High School was opened in 1912, and the roll number for that year was 139. The number for 1915 was 199, including 114 new students. Free places were held by 185 students, as follows: Junior free places, 156; senior free places, 27; junior scholars, 2. The proportion of boys to girls is somewhat lower than it was last year, when 95 boys and 83 girls were in attendance, as against 98 boys and 101 girls this year, but on account of enlistments of men for the war, boys have had exceptional opportunities of entering into employment. The same factor has influenced the rate of withdrawal of students during the year, and it has been impossible to find boys in sufficient numbers to supply the requirements of banks and mercantile houses. The demand of the trades for boys to be apprenticed has been more variable, but considerable numbers of those taking the trade course have entered apprenticeships in the woodworking and engineering trades. Girls have been withdrawn steadily to fill positions in offices, and it is pleasing to note that a proportion of those taking the domestic-science course have obtained employment with milliners and dressmakers, though most of them on leaving school are found particularly useful in their homes. It is indeed noteworthy what a large proportion of our students follow up vocations for which they have received special training. In the past four years 292 students who had enrolled during the years 1912, 1913, and 1914 have left school. It has been possible to follow the career of 256 of them for some time after leaving, and it is found that not less than 181, representing 70 per cent., have entered vocations for which they have received special training in our classes. No doubt most of them would have undertaken the same work even if they had not attended the school, for the colonial youth who has reached the age of fourteen years or thereabouts is usually a good judge of the general class of work for which he is fitted. For boys and girls who require to start work about the age of sixteen years the vocational school of this type serves a useful purpose, since a course of one or two years enables them and their parents to judge with greater accuracy whether the career tentatively chosen is the most suitable.

It is regretted that under the Education Act, 1914, free admission may not be granted to boys and girls who have failed to qualify for at least a Standard VI competency certificate, since it means in many cases that those who mature later than the average or have had an interrupted course of education in the primary schools are thus debarred from receiving further instruction in the day school. For the town boy or girl this is not as serious as it is for those resident in the country, since the former have now opportunities of attending evening classes. It is not

desirable to admit to our technical high schools those whose educational attainments are too low, but it was proved prior to the passing of the Act that boys and girls who had received instruction in Standard VI subjects could be admitted as students with advantage to them and without lowering appreciably the standard of work in the classes.

Owing to the increased attendance the teaching staff was strengthened during the year by the appointment of instructors in science and mathematics, agriculture and agricultural science. The agricultural class, which had a roll number of fourteen, gives promise of steady development. No notable change was made during the year in the working of the four courses, as they are now generally developed and have several special instructors for the more technical subjects in each course. A further development of the domestic-science course by the addition of instruction in practical housewifery is still necessary, but this must be postponed until more class-rooms are available. Examinations for Pitman's certificates were held, and eighteen elementary, four theory, and six speed certificates were awarded to our students. Thirty-five holders of junior free places qualified for senior free places in the College examinations. Two students passed the Public Service Entrance Examination, one of them securing second-highest marks in book-keeping. This is particularly creditable, since no special preparation was made for the examination, which was taken incidentally at the end of a two-years course. One of our students and a former student now in attendance at the evening classes secured passes in the examination for shorthand-typists held in May. In the whole Dominion only thirteen candidates were successful in passing the full examination.

With the exception of the erection of a fire-escape and the completion of other improvements calculated to make the buildings more fireproof, no building operations were carried on during the year. Indeed, the erection of more buildings on the site is now out of the question, and in view of the pressure already felt in the matter of accommodation for class-work it is hoped that the work of some of the classes may be carried on in other buildings in the near future. The transfer of the Boys' High School site and buildings to the Technical College has been under consideration for the past eighteen months, and the most satisfactory terms on which it can be arranged have been agreed upon by the two Boards and the Education Board. The High School site is an excellent one for our purpose, and the buildings would provide sufficient additional accommodation for some years to come.

Two interesting developments in the school life have been the establishment of a School Council and the publication of a School Review. The Council is composed of representatives chosen by each form, and it is largely responsible for the control of the students outside the class-room and the organization of games and social activities. Such an arrangement is still somewhat in the experimental stage, but indications of its success are already to be seen. The system of controlling students travelling in the train by prefects chosen by themselves has worked most satisfactorily, and, although nearly a hundred girls and boys have gone to and fro daily by train for four years, no accident has yet been recorded. This fact in itself promises well for the recent extension of the powers of self-government in the school.

In common with other schools in the Dominion, this one has taken a share during the year in collecting money for the purpose of relief made necessary by the war. Early in the year a sum of £53 2s. 6d. was paid into the funds for British relief, and during the carnival held in Southland to raise money for wounded soldiers students were instrumental in collecting not less than £60. Of this, £19 was raised by a very successful continuous subscription scheme which was put into force during the carnival only. In addition to providing money by direct contributions, students brought in large donations of produce, sweets, flowers, and manufactured articles for sale at the stalls working in the interests of the carnival.

The general interest shown in athletics during the year has been good, though students who have to return to their homes in the country at the conclusion of the classes each day have little time for playing games. A healthy rivalry among the different sections of the Cadet corps has been productive of good results in maintaining its efficiency. Although the school is now completing only the fourth session since its opening, two of our old students have left for the front and one has enlisted.

The evening classes were attended by 239 paying students and 123 holders of free places, which represents an increase of fifteen over the total numbers enrolled in the previous year. It was anticipated that the roll numbers and the average attendances would be considerably affected by the war, and in the trade and art classes this was to some extent realized. Before the end of the year three-fourths of the students in the plumbing classes and a large proportion of the students in the carpentry classes had enlisted, so that very few men of military age remained on the roll of any of the classes. On the other hand, it was found necessary to increase considerably the number of commercial and domestic-science classes, and there was a keen demand for instruction in wool-classing.

Referring more particularly to the different courses of instruction, it was found that in the engineering course good enrolments were recorded for machine-drawing and workshops practice, but an advanced class for the study of steam and other heat engines was not well supported. The class for electrical wiring was rather smaller than in the previous year. Small classes were held for building-construction and carpentry and joinery, and the attendance at the classes in principles and practice of plumbing fell off considerably during the year, as mentioned above. The number of students attending the art classes for light and shade, model and antique drawing, drawing from life, and oil- and water-colour painting were somewhat below the average, though the standard of work was high, but the wood-carving and photography classes had considerable roll numbers. The cookery class attracted about the ordinary number of students, whilst the dressmaking, needlework, and millinery classes had large roll numbers. These classes

were held on four evenings and three half-days in the week, and many country students attended regularly. As usual, the classes for electricity, pharmacy, science, and mathematics were small. The demand for instruction in commercial subjects, which was growing strongly in 1914, was again evident in 1915, and the classes for shorthand, typewriting, book-keeping, and commercial correspondence were well attended. Though English and arithmetic are generally compulsory subjects in any course, students in these classes showed much interest, and several of them were enabled to pass the Public Service Entrance Examination. The elementary class in wool-sorting was well attended, and an advance class for the study of sheep, wool, and wool-values was instituted very successfully. There was a good attendance in the class held for instruction in primary subjects.

During the year a further revision was made in the scale of fees charged to paying students, the tendency being to reduce the charges to those who attend a course of subjects for the full session. It is pleasing to record that under the Arbitration Court awards in operation in Southland for the engineering and the carpentry and joinery trades encouragement is given to apprentices to attend evening classes. In the former additional remuneration is paid to those who have passed Grade 1 of the Mechanical Engineering Examination held by the City and Guilds of London Institute, while in the latter it is given to those who obtain a technical-school certificate for attendance at classes. This is a step in the right direction, but in view of the progress made in trade work by boys attending technical high schools and the number of years which many of them attend it is meet that recognition should be given to the time they spend in their continuation education, either by reducing the length of their apprenticeship or by paying them increased wages from its commencement.

Geographically Invercargill is situated in an isolated position, and more frequent visits to the College by educational experts would be appreciated. Much help is gained from visits made by Inspectors and other officers of the Education Department, and these could to our advantage take place more frequently each year.

Many persons interested themselves in the work of the College during the year, and contributed materially to its progress. Thanks are due to a number of firms, farmers, and others for permitting students to pay visits of inspection to factories, workshops, and farms. I have to thank the Chairman and members of the Technical School Board for the consideration they have accorded to me during the year, the officers of the Education Department for their uniform courtesy, and the Press for the support which it has given throughout. To my colleagues on the staff I wish to record my sincere thanks for their hearty co-operation.

D. E. HANSEN, Director.

#### EXTRACT FROM THE REPORT OF THE CONTROLLING AUTHORITY OF THE GORE TECHNICAL SCHOOL.

During 1915 evening classes were held in the following subjects: English, arithmetic, shorthand, book-keeping, and dressmaking. Although the numbers enrolled for the various classes were small, good and satisfactory work was done, and the students in attendance displayed keen interest. Owing no doubt to the unsettled state of affairs, for which the war was primarily responsible, several classes had to be abandoned for the session. People were so busily engaged working for Queen Carnival, the Red Cross Society, and other organizations brought into being by the war that they had very little leisure time at their disposal, consequently our evening classes suffered. As the number attending each of the five classes held was so small, the Board deemed it inadvisable to hold them as usual for two terms of ten weeks each. Instead the classes were held for one term of thirteen weeks' duration, and this arrangement under the circumstances proved sufficient.

E. C. SMITH, Chairman.

*Approximate Cost of Paper.*—Preparation, not given; printing (1,300, copies) £45.

*Price, 1s. 3d.]*

By Authority: MARCUS F. MARKS, Government Printer, Wellington.—1916.

