

1893.
NEW ZEALAND.

EDUCATION: THE CANTERBURY COLLEGE

(PAPERS RELATING TO).
[In continuation of E.-7, 1892.]

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

I.—ANNUAL STATEMENT OF THE CHAIRMAN OF THE BOARD OF GOVERNORS.

At the annual meeting of the Board of Governors of the Canterbury College, held on Monday, the 10th July, 1893, the Chairman's statement of the progress made and the work done in the several departments during the year was read, as follows:—

THE COLLEGE.

During the year ending 30th June several changes have taken place on the Board of Governors. Mr. G. G. Stead was elected by the graduates to fill the position previously occupied by Mr. J. D. Enys. In March, Mr. T. W. Maude resigned, and the seat of Mr. Leonard Harper was declared to be vacant. The election to replace these members came off in April, and resulted in the return of Mr. T. S. Foster, M.A., a graduate of the College, and Mr. E. G. Wright, M.H.R. Leave of absence for a few months has been given to the Right Rev. the Bishop of Christchurch, and to Mr. F. de C. Malet, the Chairman of the Board. Mr. H. R. Webb was appointed to perform the duties of Chairman during the absence of Mr. Malet.

The number of students who have attended lectures during the past two years is as follows:—

			Matriculated.	Non-matriculated.	Total.
In 1891-92...	...	...	239	194	433
In 1892-93...	...	...	244	182	426

The number of students attending each lecture during the last term was as follows:—

Classics.—Pass Latin: Translation, 40; composition, 45. Greek: Translation, 6; composition, 7. Honours Latin: Translation, 9; composition, 6.

English Literature.—Pass lectures: Queen Anne literature, 69; language of Shakespeare and Lamb, 69; composition, 148; essay class, 121; Art of Shakespeare and Lamb, 129. Honours lectures: Philology, 27; criticism, 37; history, 51.

Mathematics.—Pass lectures: Pure mathematics, 60; mechanics and hydrostatics, 16. Honours lectures: Section I., 2; Section II., 6; Section III., 2; Section IV., 1; elementary mechanics and hydrostatics, 6.

Chemistry and Physics.—Pass chemistry, 12; honours chemistry, 5; teachers' chemistry and physics, 7; pass physics, 17; practical physics, 16; honours physics, 1; elementary science (teachers' E and D), 28; laboratory practice (chemical), 33.

Geology.—Junior, 12; senior, 9.

Biology.—General biology, 10; senior botany, 11.

French.—Elementary, 22. Pass lectures: Grammar and history of language, 15; translation, 29; composition, 28; literature, 28. Honours lectures: Philology and etymology, 9; essay and sight translation into French, 6; authors, 3.

German.—Composition, 3; translation and composition, 3.

Jurisprudence.—Pass, 11; honours, 9.

Constitutional History, 9.

Law.—LL.B. (second section), 8; LL.B. (third section), 2.

Music.—Rudiments and harmony (first year students), 21; harmony (intermediate second year students), 19; harmony and counterpoint (third year students), 18; harmony and counterpoint (third year students—evening class), 4.

Eight students from the College have this year obtained the degree of M.A. Miss Stella Henderson gained at the same time first-class honours in languages, and E. Hardcastle first-class

honours in mathematics; Miss E. Stevenson, and Messrs. F. G. Gibson, E. T. Norris, N. G. Pye, and H. B. Watson second-class honours in languages, and Miss A. C. Tendall third-class in languages; whilst C. E. Adams, as B.Sc., gained second-class honours in mathematics. Sixteen students of the College have passed the final section of their B.A. examination (Misses M. G. Connon, M. E. Hyndman, L. Lewis, Florence Sheard, and F. Stoddart, and Messrs. J. E. Bannister, E. S. Buchanan, T. W. Cane, W. G. Ivens, W. S. Marris, D. Purchas, G. G. S. Robison, F. J. Rowley, E. Rutherford, and A. H. Thorpe); whilst forty have passed the first section of their B.A. examination (Misses M. Baldwin, A. G. Banks, L. E. Bing, E. R. Broom, A. A. Carter, H. Davy, R. G. Dick, A. Dykes, A. M. Fordham, E. V. von Haast, J. Inglis, K. Isherwood, G. H. Johnston, H. E. Lewis, C. Locking, E. A. Orr, M. E. Oswin, H. S. Piercy, B. Richmond, A. Rogers, E. M. Rowley, Fanny Sheard, A. M. Thompson, and M. Todhunter; and Messrs. A. J. Buchanan, A. N. Burns, G. W. Chatwin, J. U. Collins, C. A. Craig, W. H. Dawson, A. Dunn, J. A. Erskine, C. J. Goldstone, J. Hight, R. L. McIlroy, H. Muff, A. T. Ngata, H. H. Ward, W. C. Wigley, and H. Williams). J. C. Westall, T. W. Beare, T. S. Weston, M.A., and T. H. G. Lloyd, B.A., obtained the degree of LL.B.; R. Tolhurst, B.A., passed the second section of the LL.B. examination; and Messrs. A. Dunn, A. T. Ngata, and W. C. Wigley, the first. W. H. Dawson passed the first section of the B.Sc. examination. W. S. Marris gained the senior scholarship in Latin; J. E. Bannister that in Greek; E. Rutherford that in mathematics; E. S. Buchanan that in English and French; and Miss Florence Sheard that in political science.

J. C. Westall, an exempt student, gained the Bowen prize for 1892 for an essay on "The influence of the financial relations of Great Britain and the Australian Colonies on the past and future development of the latter."

The College exhibitions, given for excellence in honours' work at the College annual examination, were awarded as follows: For Latin, W. S. Marris (Mr. Marris having left the colony, this was subsequently granted to J. E. Bannister, who was *proxime accessit*); for English, J. Hight; for mathematics, E. Rutherford and W. S. Marris equal; for experimental science, E. S. Buchanan and E. Rutherford equal; for political science, Miss Florence Sheard; for natural science, Miss E. V. von Haast and A. H. Thorpe equal; for French, A. J. Buchanan.

The graduates of the University of New Zealand who have been educated at the College now number 144, sixty-three of whom have obtained the degree of M.A., seventy-five the degree of B.A., four that of LL.B., and two that of B.Sc. Seven arts graduates have also obtained the degree of LL.B., four that of B.Sc., and one that of LL.D. Of the Masters of Arts, two gained double first-class honours, one a double first-class and a second, one a first-class and a second, one a first-class in arts and a second-class in science, thirty first-class honours, two double second, fifteen second, and twelve third-class; and of the Bachelors of Science, one gained second-class. Thus, out of 328 who have taken degrees in the University of New Zealand (exclusive of medical degrees, for which this College cannot enter candidates), 144 belong to Canterbury College; out of the 134 who have taken the M.A., sixty-three belong to it; and of the sixty who have taken first-class honours, thirty-six belong to it. Of the ninety-eight senior and third year and John Tinline Scholarships awarded by the University of New Zealand during the last sixteen years—the period during which the present scholarship regulations have been in force—sixty-two have been awarded to the students of Canterbury College. Of the eighteen Bowen Prizes which have been awarded by the University for an essay on a subject connected with English History, and open to all undergraduates of the University of New Zealand, twelve have been gained by students trained in this College, whilst the only three mentioned as *proxime accessit* have also been of this College.

Various changes have taken place in the staff of Professors and Lecturers attached to the institution. Captain Hutton has resigned the chair of Geology and Botany, and accepted the position of Lecturer on Geology, as also the Curatorship of the Museum.

Applications were invited in this colony and Australia for the position of Lecturer on Biology, with the result that Dr. Arthur Dendy, of the Victoria University, England, and at present Demonstrator in Biology at the Melbourne University, has been selected for the appointment. His duties will commence on the 1st February, 1894.

In the meantime, Captain Hutton has kindly consented to carry on the Lectures in Biology during the current session.

The question as to the duration of terms and vacations has occupied much time and attention. The Board has lengthened the period allowed for lectures by twenty-two days. Formerly the session comprised 180 days for lectures, whereas, under the new arrangement, the time allotted is 202 days; in both cases Sunday being reckoned in. For the future the first term and lectures will commence on the 10th March and extend to the 30th June, four days' recess being allowed at Easter. The second term and lectures will begin on the 28th July; lectures will continue to the 24th October inclusive, and the term will end on the 7th November, the interval between these two dates being taken up by the College examinations.

Examinations for exempted students have been held during the year at Wellington, Nelson, Napier, Wanganui, Hokitika, and Blenheim. An examination in music has also been held at Timaru.

Music.—It is gratifying to find that a number of students who began to attend the lectures in music in 1891—the year in which classes were first instituted—are still continuing their studies, after having passed their examinations at the end of the two preceding years. The total number of students attending the lectures in music is sixty-two. Of these, twenty-two are now in their third year, twenty in their second, and twenty in their first year. The subjects now being taught are rudiments of music, harmony, harmonising of melodies, and counterpoint in two parts. At the end of the second term of this year there will be three grades of examination for first, second, and third year students.

A catalogue of the books in the College Library has lately been printed. Since then the number has been increased by 456 volumes presented by Mrs. Tancered in memory of the late Mr. H. J. Tancered, one of the first appointed members of the Board, and one who always took great interest in the cause of education.

The total number of books in the library now amounts to 3,641.

Several improvements have been effected in the buildings and surroundings, the most noticeable being the re-arrangement of the quadrangle.

SCHOOL OF ENGINEERING AND TECHNICAL SCIENCE.

Attached is the report of the Lecturer in charge of the school.

GIRLS' HIGH SCHOOL.

The number of pupils attending the school last term was 123. A few changes in the staff have taken place during the year. The cooking classes and dress-cutting classes are well attended, and are progressing satisfactorily. Some slight changes have been made in the arrangements of the latter, so that more time might be given to the subject. The swimming classes were very large last season, and were conducted with the usual success. As a large part of the school-ground has lately been asphalted, the classes in drill and gymnastics will be held more continuously than they otherwise could have been during the winter months. The reports last year of the Examiners in these practical subjects, together with drawing and singing, show that they are carefully and thoroughly taught.

At the annual examination in the ordinary subjects of the school course, the reports of the Examiners (Mr. A. C. Gifford, Mr. T. R. Cresswell, Mr. W. M. Clarke, Miss L. Williams, Mr. L. Cohen, and Mr. B. S. Bull) were very favourable. At the examination held last December by the Board of Education, two pupils gained scholarships in the senior class. At the entrance examination of the New Zealand University, held last December, out of thirteen girls who entered for matriculation, twelve passed. Three girls entered for the Junior University Scholarship examination, two of whom were successful in gaining scholarships; the third candidate had a good place in the honours list. These bring up the number of Junior University Scholarships, which the school has gained during the last ten years, to seventeen.

BOYS' HIGH SCHOOL.

There has been little change in the staff. Mr. O. T. J. Alpers has been appointed full time master. The number of pupils attending last term was 188; the number last year was 165.

The school was examined in all subjects (including drawing and drill) in December last by Mr. A. C. Gifford, M.A.; Mr. T. W. Rowe, M.A.; Mr. L. Cohen, M.A.; Mr. W. M. Clarke, M.A.; Mr. G. Gray, Mr. R. J. Scott, M.I.C.E., and Lieutenant-Colonel Gordon. Their reports, as a whole, were very satisfactory.

The distinctions gained by pupils during the year are as follows: Two boys won junior University scholarships, one being first and the other third on the list of twelve New Zealand scholars; six boys matriculated, two passed the medical preliminary examination, and one the barristers' general knowledge examination. Three out of the five senior scholarships awarded by the North Canterbury Board of Education were won by pupils of the school. F. Oxford passed the Senior Civil Service examination, and E. C. Smith was fourth of New Zealand candidates for the Junior Civil Service. Mr. E. Buchanan, a former pupil, won a senior University scholarship for English and French. Mr. E. G. Norris and Mr. W. G. Pye obtained their M.A. degree, with second class honours in Latin and English.

In the school workshop boys are being taught to make objects which they have previously drawn to scale under the supervision of the drawing-master. It is hoped that this connection between drawing and carpentry will be strengthened.

MUSEUM.

This department remained under the temporary charge of Captain Hutton from the 21st May to the 31st December, 1892. He having resigned the position of Professor on the staff of the College, entered upon his duties as Curator on the 1st January, 1893. During the few months he has had control various rearrangements have been effected to the manifest advantage of the various collections under his charge.

Appended hereto will be found the Curator's report on the work of the department for the year ended the 30th June last.

SCHOOL OF ART.

During the year ended the 30th June, the numbers attending the classes at the School of Art were as follows:—

					Second Term.	Third Term.	First Term.
Year 1892-93—							
Morning class	...	...	...	...	31	30	28
Evening class	...	...	...	...	66	72	85
Saturday teachers' class	...	...	...	...	88	94	80
					Year 1892-93.		Year 1891-92.
Normal School students (individual)	...	...	...	...	45		42
Boys' High School pupils (individual)	...	...	...	...	181		160

Morning Class.—This has been arranged in three divisions, and the following subjects taught: First Division—Freehand, model, and elementary light and shade; Second Division—Drawing from the cast (antique) in outline and light and shade, and still life in monochrome and colour; Third Division—Drawing and Painting from life, both nude and draped, and advanced still life work in colour. The class for sketching from Nature has gone out once a week, working in outline, monochrome, and colour.

Evening Class.—The work has comprised freehand, model, geometry, perspective, light and shade, architectural drawing, decorative design; and drawing, painting, and modelling from the figure.

The Normal students have received instruction in freehand, model, geometry, perspective, and drawing from the cast.

The High School boys have been taught freehand, model, geometry, and plan drawing. A special class has been lately started for making working drawings of various objects. Instruction has subsequently been given in the workshop by a carpenter, showing how these things may be made in wood.

Saturday Teachers' Class (State School Teachers).—This class is instructed in freehand, model, geometry, perspective, and memory drawing, on the black-board. Some of the more advanced are taught outline and light and shade from the cast.

Life classes for drawing from the figure, both nude and draped, have been regularly held, and have been well attended.

The prizes offered by a friend of the school, for designs for carriage entrance-gates, &c., were awarded, the first to Mr. A. Harré, and the second divided between Messrs. A. W. Fielder and C. E. Brunsden.

Mr. A. J. White, as also Messrs. Whitcombe and Tombs, gave various prizes for the encouragement of those attending the school.

Six free studentships were offered for competition to the morning and evening students, and were awarded as follows:—

Morning Students.—Drawing from the life, Miss E. R. Budden; landscape from Nature, not awarded; painting from still life, Mrs. A. E. Turner.

Evening Students.—Drawing from life, Miss E. R. Budden; drawing from the antique, Miss E. M. Clarke; architectural drawing, Mr. C. E. Brunsden.

The annual free studentships offered to the head boy in drawing in each of ten district State schools were competed for last February. Six schools competed. The following were the successful competitors: Normal school, L. E. Burrell; Ferry Road, E. Archbold; West Christchurch, D. Reese; St. Albans, C. E. Briggs; Papanui, R. Morgan; East Christchurch, M. Malthus. Mr. P. van der Velden judged the advanced work in the fine arts, and Mr. W. B. Mountfort that in architecture and decorative work. The following are the results: Freehand—1st prize, Miss A. Sorensen; 2nd, C. Pierson and E. Archbold. Model—1st prize, J. L. Nosworthy; 2nd, E. England. Light and shade from the antique—Prize, Miss E. Simpson. Still life in colour—Prize, Mr. H. Spensley. Head or figure from life in colour—Miss E. R. Budden. Copied decorative designs—Mr. C. E. Piercy. Mr. St. G. Atkinson, one of the teachers under the Board of Education, obtained the prize for freehand in competition with the whole of New Zealand. Mr. G. Hurst Seager has been appointed to take charge of the branch in architectural and decorative design and drawing. His work will commence with the third term. The annual second grade examinations were held last December, with the following results: Freehand, 83; model, 50; geometry, 10; perspective, 4; blackboard, 9; full certificate, 6. Advanced second grade or art class teachers' certificate was gained by Miss E. E. Munnings. The annual exhibition of students' works was held last February, when the prizes were distributed by Mr. H. R. Webb. The bronze medal for the best painting from life was awarded to Miss E. R. Budden.

For some time past additional accommodation has been required at the School of Art. The Board has recently authorised the acceptance of a tender for adding two rooms to the building at a cost of £872 18s.—one on the ground-floor, 25ft. by 25ft., the other on the upper floor, the whole area of which, 36ft. by 25ft., will be available as a class-room. Provision will be made for heating the new rooms by materially improving and extending the present heating apparatus.

It is a matter of regret that the plaster casts imported from India, in consequence of the inferior quality of the material used, and of defective packing, arrived in very bad condition.

PUBLIC LIBRARY.

During the past year it has been found necessary to make various alterations and repairs to the cottage adjacent to the public library, necessitating a considerable outlay. For some time past the accommodation at the public library has been inadequate. In April a contract was let for an addition in brick of 49ft. by 31ft., height of walls 25ft. The new building will be used for the reference library. The space occupied by the reference library at the present time will be added to the circulating library. The floor area of the new building will be 1,488 superficial feet, or a total of 530ft. more than the floor space of the existing reference library. The circulating library has a floor space of 1,360ft., and when the area of the present reference library is added to it, there will be 2,320ft., or an increase of 960ft. The books in the present reference library cover a wall space of 750ft., while the similar space available in the new building will be about 1,250ft. The latter is planned in such a way that two galleries may be added at any time, should occasion require. The total wall space in the new building would then amount to 3,750ft. The walls will be brick, and plastered. There will be an open timbered roof of kauri and rimu, and the light will be obtained from skylights. The hot-water pipes in the present building will be extended through the new building. The amount of the contract for the new building is £684, and it is expected to be completed in six or eight weeks. The work of putting up the shelving will be proceeded with as circumstances demand.

Reference Department.—The attendance at the reference library has been larger than in previous years. The Society of Musicians has presented its books, consisting of fifty-nine works and parts of works, to this department. The Society has also handed over the *Musical Times*, the *Musical Standard*, and *Monthly Musical*. It is understood that the subscriptions to these periodicals will be continued by the Society, and they will be placed on the tables for reference. Two hundred and seventy-one books have been added during the year, bringing the total number of volumes up to 8,894.

Circulating Department.—Complaints have again been made as to the disappearance of various volumes from the shelves. Greater care might reasonably be expected from subscribers in the treatment of books taken out. During the year 669 new books have been added, while 231 worn-out volumes have been replaced, and 226 in addition have been ordered from England, and may be expected to arrive shortly. The magazines now taken number sixty-two. The total number of books in this department is 14,509. The number of subscribers is 1578.

Reading Room.—This department is much frequented. The *Melbourne Argus* is now regularly taken in, together with the following papers: English 6, Irish 1, Scotch 1, American 1, Australian 8, New Zealand about 40, and 16 magazines.

SCHOOL OF AGRICULTURE.

The number of students attending the School of Agriculture during the second term of 1892 was 37, and during the first term of 1893, 20. The cost of maintenance, fuel, light, &c., for each student and member of the teaching staff during the year has been £45 17s. 7d., viz.: for the second term, 1892, £19 0s. 5d., and for the first term, 1893, £26 17s. 2d.

Final certificates of the school were obtained in December last by the following students: R. H. Martin, E. E. Martin, J. Gard'ner and J. R. Burt. Certificates of merit have also been awarded to J. Gard'ner, R. H. Martin, E. E. Martin, W. C. Leys, E. C. Fryer, T. E. Crawford and C. J. Barron.

During the past year, in the absence of the Director, the work of the farm has been under the supervision of Mr. Henry Overton, Chairman of the Board of Advice; and the management of the school proper under Mr. George Gray. The lectures on Agriculture have been supplemented by practical demonstrations to second-year students, on stock, kindly undertaken by members of the Board of Advice and other gentlemen, thus keeping the work up to the usual standard. Several changes in the teaching staff have been made, Mr. C. E. Adams having been appointed to succeed Mr. E. C. Buckley as mathematical master, and Mr. P. Marshall as natural science master, in the place of Mr. E. Wilkinson resigned. Arrangements have been made by which the students have the use of a reading-room, well supplied with newspapers and agricultural periodicals. This appears to be much appreciated. A smoking-room has also been provided for the use of students.

Board of Advice.—During the year Mr. J. W. Overton resigned his seat on the Lincoln College Board of Advice. The vacancy was subsequently filled by Mr. Henry Overton. The seat on the Board vacated by Mr. Henry Overton at the expiration of his year of office as Chairman of the Agricultural and Pastoral Association was filled by his successor, Mr. John Grigg. The members of the Board retiring by rotation to-day, in accordance with the rules, are Messrs. William Boag and Henry Overton. They are eligible for re-election. Since its establishment the Board of Advice has rendered valuable assistance to the department. The Chairman of that body, Mr. Henry Overton, has taken the greatest interest in the welfare of the institution. He has regularly visited Lincoln, and been untiring in the endeavour to place the farm in first-class order. Mr. Gray's house and the various cottages on the estate have been added to and placed in thorough repair. In response to advertisements inserted in the Home and Colonial newspapers, applications to the number of fifty-two were received for the position of Director of the School of Agriculture, Lincoln. These were very carefully examined by the members of the Board. Two or three names were selected and referred to the Agent-General, with a request that he would kindly interview the gentlemen named and report the result by cable. Unfortunately the candidates selected, though possessing very high honours and qualifications and of high scientific attainments, proved to be too young and inexperienced for a post of such responsibility. The best thanks of the Board are due to the Agent-General and to Mr. Kennaway for the care and attention devoted to the questions submitted to them. Finding that it was almost impossible to select a gentleman in every way suitable for the position, without the opportunity of a personal interview, it was decided to appoint a Commission in England with full power to take such steps as may be necessary to fill the directorship. The following gentlemen were asked to act on the Commission: The Agent-General, Lord Onslow, Mr. P. Cunningham, and Mr. J. N. Tosswill. As the latter is at present residing on the Continent, it is possible that he will not be in a position to take part in the selection. The others have intimated their willingness to act. The applications for the position were sent to the Agent-General, and it is hoped that in five or six weeks news will be received from England stating that an appointment has been made. With a view to do away with the difficulty previously existing, of scholarships gained at Government Primary Schools being held at the Lincoln College, the Board agreed to permit the institution to be inspected by a Government officer, as required by section 51 of "The Education Act, 1877."

The Chairman of the Board of Advice reports: "The past year has been a most peculiar one as regards weather, the winter being unusually wet, followed by perhaps the driest spring ever known in the Lincoln district. The consequence was that the wheat suffered most severely from the drought and rust, and gave the lowest yield on record. One field of wheat, specially laid out, was treated with four different manures without giving the slightest perceptible benefit in any way, unless it is yet to be shown by the analysis of the grain. The oat crop, which was saved by the splendid early summer rain, was above an average one. The root crops, which were treated with different manures, are all good, and are now being fed off with advantage. The stock upon the farm

are now looking well, and comprise 1,220 sheep, 73 head of cattle, 97 pigs and 13 horses. The above numbers have been carried during the year. A good deal of culling has been done; yet there is need for improvement, and especially in the sheep, for it would be of great advantage if many of the latter could be replaced by stud stock. This would have a splendid effect financially, as may be seen from the returns of the little flock of Eorder Leicesters now upon the farm. A good deal of additional expense has been incurred during the year by a determination to rid the farm of all weeds; and we may now say, to the best of our knowledge, not one single weed has seeded upon the farm during the past season. The work of changing the water-race courses from the north-west to the south-west side of the fences has received a good deal of attention. A great improvement has been effected in the cow and pig-yard by having the same paved with brick and grouted with cement; and the proper storage of all liquid manure from the above yard and stable provided for by the building of a very large concrete reservoir. The liquid from here will be made use of by either the water-cart upon the grass land, or through the water-drill for root-growing. The annual valuation of the stock and plant upon the farm has been again done by Messrs. McMillan, Boag and H. Overton, in the presence of all the second-year students. The result has shown an increased value, owing chiefly to the improvement in cattle and sheep. During the year the farm has had to be worked to considerable disadvantage owing to the fact that no permanent employment of hands could take place, as it was considered most desirable that the incoming Director should in no way have his hands tied by not being able to make any changes he might think necessary upon his arrival.

II.—REPORT OF THE LECTURER IN CHARGE OF THE SCHOOL OF ENGINEERING AND TECHNICAL SCIENCE.

SIR,—

I have the honour to report on the work of the School of Engineering and Technical Science.

Lectures are at present delivered and instruction given in the following subjects: Freehand mechanical drawing and dimension sketching, practical geometry, mechanical drawing, steam and the steam engine, applied mechanics, the mechanics of machinery, advanced geometrical drawing, advanced mechanical drawing and designing; the strength of materials and design of bridges, roofs, and other structures; advanced steam engine, engineering, laboratory. The number of students attending lectures is fifty-three, eight being matriculated, and forty-five non-matriculated or "extra." The number of hour attendances per week is 219. The majority of the "extra" students are either mechanics or apprentices who are engaged in practical work during the day, and in the evening attend the lectures which are now delivered every night with the exception of Saturday.

A diminution in the number of matriculated students has been caused by the impracticable nature of the course of engineering at first decided on by the University Senate, the reward for the completion of which was to have been a certificate only. The Senate, however, has been prevailed on to reconsider its decision; and the course, as now laid down, is an excellent one. The degree of "Bachelor of Science and Engineering" will be granted on its completion, terms having been kept by the student at the School of Engineering, Canterbury College. The effect of this temporary check is therefore far more than compensated by the great advantages of a university course, and the official recognition of the School.

The engagement of a Demonstrator has allowed arrangements to be made for the extension of technical classes. Mr. A. F. Morrison, a former student and exhibition holder of the school, has received the appointment.

An "experimental" engine has been ordered for the laboratory, and should be in position early next year. The presence of this engine will be of the greatest advantage, enabling much of the theory of the steam-engine to be verified experimentally by the students themselves; whilst much important information concerning the most suitable conditions for the combustion of New Zealand fuels will doubtless be obtained.

I would now bring under your attention the fact that the School of Engineering has to fulfil the two-fold function of a department of the University and a technical school. To do this successfully, a considerable expenditure must be incurred. Engineering cannot be taught without practical illustration. The examples which abound in the older countries are not to be found here, a fact which renders doubly necessary the presence of the well equipped laboratory which forms so important a part of engineering colleges and technical schools throughout the world. The University Senate, too, insist on a large amount of experimental work, and their examiners are to be "English engineering professors of standing," accustomed to this method of instruction. The New Zealand student, if without such advantages, must therefore be heavily handicapped. That early action is required is evident from the fact that a third-year student sits for his University examination in November next. He will then be required to pass in the "practical testing of materials," and to carry out experiments on the "calorific powers of fuels," "efficiency of steam boilers and engines," "determination of frictional and fluid resistances," &c. In none of these subjects, owing to the want of facilities, has he received practical instruction. The same student desires to take electrical engineering as his fourth-year subject. No electrical plant exists at the school. Finally, I am convinced that it now requires only the thorough equipment of the school to insure its complete success. The advantages of the present course are so great that students will be drawn from all parts of the colony. It will also have the support of all members of the profession, some of whom regard with natural doubt the absence of practical illustration.

To many my thanks are due for assistance and support during the past year, notably the Railway Commissioners, Locomotive Superintendent, officers of the locomotive department, and Messrs. Scott Bros., who received matriculated students in their works during the vacation free of charge.

I have, &c.,

ROBT. J. SCOTT,

The Chairman, Board of Governors.

M. Inst. M.E., A. M. Inst. C.E.

III.—REPORT OF THE CURATOR OF THE MUSEUM.

SIR,—

1st July, 1893.

I have the honour to submit my report on the work done in the Museum during the past year. The chief improvements have been: (1.) The rearrangement of the collections in the antiquity and ethnological rooms, which I pointed out in my last report as being necessary. (2.) The addition of new cases to the New Zealand room, which has enabled me to rearrange the gallery and to exhibit to the public a large collection of moa bones; and (3.) The mounting and labelling the collection of foreign fossils, a work on which Mr. H. Suter was engaged for seven months, and which he has completed in a most satisfactory manner.

Satisfactory arrangements were made with Dr. H. de Lantour last July for retaining the collection of moa bones from Enfield; and three skeletons of moas were mounted by Mr. Sparks and taken by him to Oamaru last August, where they were handed over to Dr. de Lantour, Mr. W. Meek, and the Oamaru Athenæum, according to agreement.

A skeleton of *Dinornis robustus* was sent to Sir Walter Buller last February for the New Zealand Court at the Imperial Institute in London. It is to remain the property of the Canterbury Museum until the Institute sends in exchange a group of Maoris—man, woman, and girl—modelled in wax of life size.

Several cases of petty larceny having occurred in the mineralogical room during the last few years, I removed all the valuable gold specimens and diamonds into a specially secured case, placed in a conspicuous position in the ethnological room, which is rarely without visitors, and I have improved the fastenings in the mineralogical room. Since these were done there have been no further losses.

During the year exchanges have been made with the Museums in Auckland, Wanganui, Dunedin, Brisbane, and Copenhagen, as well as with Mr. Aug. Hamilton, Mr. J. J. Kinsey, Mr. E. G. Sealey, and Mr. J. Brazier. Others are in course of arrangement.

I have to report satisfactorily of the way in which the members of the Museum staff have performed their several duties.

I have to acknowledge the kindness of the Agent-General in selecting a series of wood carvings in London, and also for receiving and forwarding cases for the Museum. I have also to thank the Inspector of Police for allowing a constable to be present in the Museum on Sunday afternoons.

Statuary Room.—In this room the pictures have had printed labels attached. A portrait in oils of the late Rev. James Buller has been presented by Mr. W. Moor, and three more pictures have been deposited by the Canterbury Society of Arts. I am given to understand that the Society of Arts is about to build a gallery for the reception of the pictures belonging to it now deposited in the Museum. When they are removed considerable changes will have to be made in the arrangement of this and the antiquity rooms.

Antiquity Room.—The modern china and glass have been removed from this room, and the pre-historic antiquities have been brought up from the ethnological room and rearranged. The four large Etruscan cinerary urns have been placed in a glass case, to prevent them from being damaged. The principal additions are a large engraving of Trajan's Column, presented by Mr. Dominick Brown, and a plan and diary of the Siege of Colchester, printed in 1648, presented by Mr. F. H. Satchell. Mr. B. W. Mountfort has deposited a set of plaster casts of the celebrated statuettes of the twelve Apostles, from the shrine of St. Sebald at Nuremberg, the originals of which were modelled by Peter Vitken in A.D. 1505.

Ethnological Room.—The pre-historic antiquities have been removed to the antiquity room, and the modern china and glass have been again placed in the cases they occupied in 1888. The principal additions are a large and valuable collection of articles illustrating the manufactures of the Indians of Alaska, which was presented by the Ven. Archdeacon Lingard. These articles were collected by Mr. W. E. Lingard, who formed part of the expedition to survey the boundary-line between British and American territory. Also some Japanese bronzes, and a small collection of wood carvings, chiefly Scandinavian, presented by the Curator, and selected for him in London by the Agent-General.

Foreign Natural History Room.—Coloured maps showing the geographical distribution of the principal groups of mammals and birds have been placed in the cases, and a glass case which had been left unfinished for the last two years has been finished, and filled with marsupials. The collections of crustacea and echinodermata have been mounted on wooden tablets. The only additions to the collection in this room are a young fur seal, and the skeleton of a Cape Barron goose, which has been articulated and placed with the birds.

Mineralogical Room.—The type collection of rocks has been moved into the geological room, and some of the more valuable minerals have been placed for safety in a special case in the ethnological room, but no attempt has been made as yet to arrange the minerals. This I hope to undertake as soon as the University session is over. The principal additions are: Uranium ores, presented by Mr. J. D. Enys, and silver-ore from Chili, presented by Mr. Josiah Harding.

Geological Room.—The floor cases in this room have been cleaned and varnished, and the collection of fossils has been entirely rearranged, and space made for the collection of rocks, and for specimens illustrating physical geology. All the fossils, except the tertiary vertebrates, have been mounted on wooden tablets and labelled; a laborious undertaking, which gave Mr. Suter uninterrupted work for seven months. The collection of rocks has been arranged, but not yet mounted or labelled. The principal additions are casts of the bones of a fossil ostrich from the Himalaya, and a cast of the femur of the supposed Queensland moa in the Museum at Brisbane, received in exchange.

New Zealand Room.—Most of the work of the staff during the year has been in this room. The Museum assistant has printed a large number of labels, and the Taxidermist has stuffed fourteen birds and two fishes, new to the collection, and has made skeletons of a seal and of several birds and fishes.

Desk cases have been put round two sides of the gallery, and a shelf for the exhibition of specimens in spirit. This has enabled me to arrange the New Zealand collections; the geological specimens being placed on one side of the gallery, and the zoological and botanical specimens on the other side; while a large collection of moa bones has been mounted and placed in cases at the end of the gallery. This collection is undoubtedly the most complete in the world, for out of thirty-three species of moas, which have been described in various publications, leg-bones of thirty-two are now represented in the Museum, and exhibited to the public. The other fossil birds of New Zealand and the Chatham Islands have been mounted on wooden tablets and placed in cases.

The collection of "Pakeha" relics has been added to and removed into a larger case. The chief additions are a copy of the programme of the first concert in Canterbury, presented by Mr. E. W. Seager, and an old steel flour-mill, used by the first settlers, presented by the Rev. Canon Cholmondeley.

To the Maori collection has been added a Maori canoe, and other manufactures, received in exchange from the Auckland and Wanganui Museums.

The principal additions to the natural history collections are: Skeleton of New Zealand fur seal, presented by Mr. R. G. Warnes; pigeon and land-rail from the Chatham Islands, purchased; collection of sea-birds from the Kermadec Islands, by exchange; moa bones, received in exchange from the Otago Museum, the Wanganui Museum, Mr. A. Hamilton, and Mr. J. J. Kinsey; the breast-bone of a moa, containing gizzard-stones *in situ*, presented by Dr. de Lautour; two lizards, new to the collection, presented by Dr. de Lautour and Mr. D. Witte; a thresher shark, presented by Mr. Carter, of Lyttelton; a porbeagle shark, presented by Mr. R. G. Warnes; fresh-water fishes from Milford Sound, presented by Dr. G. Porter; eleven stuffed fishes, presented by Miss Gordon Rich; collection of New Zealand shells and fossils, presented by the Curator; shells from Bounty and Antipodes Islands, presented by Miss G. Robison; a named collection of New Zealand ants, presented by Mr. H. Suter; Oriental rubies from Westland, presented by Mr. W. Goodlet.

Library and Herbarium.—The duodecimo catalogues of the British Museum, and the "Transactions of the New Zealand Institute," as well as a few other volumes, have been bound during the year.

In addition to the usual donations from scientific societies the following books have been added to the library: By purchase: "Transactions of the Linnæan Society of London (1791 to 1888)," "Zoological Records" (vols. 1 to 25), "Yarkand Scientific Mission," "Mammalia and Aves," "Challenger Reports," "Botany and Deep-Sea Deposits," Sharpe's "Birds of Paradise" (parts I. and II.), Tryon's "Manual of Conchology" (second series), Denny's "Anopleurorum Britannia," Leidy's "Fresh-water Rhizopoda." By presentation: "Catalogue of Australian Mammals, Sydney Museum;" "Catalogue of Birds (vols. 16 and 17), British Museum;" Legge's "Birds of Ceylon," the Curator; "Anales des Muses Nacional de Costa Rica," Costa Rica Museum; "Anales des Muses Nacional de Buenos Ayres," Buenos Ayres Museum; Yack and Etheridge's "Geology of Queensland," the Curator; Johnstone's "Geology of Tasmania," the Curator.

The Herbarium has been augmented by some named New Zealand mosses, presented by Mr. Naylor Beckett and Mr. R. Brown.

The Chairman, Board of Governors.

I have, &c.,

F. W. HUTTON, Curator.

IV.—STATEMENT OF THE ACCOUNTS OF THE CANTERBURY COLLEGE FOR THE YEAR ENDING 31st DECEMBER, 1892.

School of Agriculture, Capital Account.

<i>Receipts.</i>				<i>Expenditure.</i>			
	£	s.	d.		£	s.	d.
To Balance, 1st Jan., 1892 ..	53,175	12	1	By Share of insurance on Saxton's estate ..	5	3	6
Payments on account of excess acreage				Cost of inspecting securities ..	1	12	10
in land purchased out of Reserve 1574	5	8	6	Legal expenses ..	14	6	1
				Refund for deficient acreage in sections			
				purchased out of Reserve 1574 ..	0	7	6
				Balance ..	53,159	10	8
	£53,181	0	7		£53,181	0	7
To Balance, 1st Jan., 1893 ..	£53,159	10	8				

Boys' High School, Maintenance Account.

		Receipts.	£	s.	d.
To Balance, 1st Jan , 1892	..	..	551	12	4
Rent of Reserves	..	..	3,194	6	10
	(outstanding from 1891)		48	8	6
School fees	..	..	1,228	10	0
Interest	..	..	12	18	8
Repayment of dishonoured cheque	..	..	7	17	6

£5,043 13 10

Balance, 1st January, 1893	£60 4 2
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Classical School, Capital Account.

<i>Receipts.</i>		£	s.	d.
To Balance, 1st Jan., 1992	..	1,069	1	7
Sale of part of Reserve 739	..	41	0	6

£1,110 2 1

Balance, 1st Jan., 1893	..	..	£1,110	2	1
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Superior Education, Capital Account.

<i>Receipts.</i>		£	s.	d.
To Balance, 1st January, 1892	..	2,747	6	11

£2,747 6 11

Balance, 1st Jan., 1893	..	..	£2,745	16	4
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College Buildings Account.

<i>Receipts.</i>		£	s.	d.
To College Maintenance Account, transfer of balance, 30th June, 1892	..	232	6	9

£232 6 9

College Maintenance Account.

	<i>Receipts.</i>	£	s.	d.
To Balance, 1st Jan., 1892		229	10	11
Rent of reserves—				
Classical School		4,503	7	10
Outstanding at 31st Dec., 1891		482	16	0
Superior education		2,565	0	0
Town reserves		395	8	0
" outstanding 31 Dec., '91		157	0	0
Rent of College lodge		56	13	4
College fees of students (transferred from				
College fees of Professors Account)		271	5	2
Interest on capital		234	1	11
Sale of calendars		7	0	5
Laboratory fees and sale of apparatus		9	18	0
Contributions towards salaries of Registrar and staff, and office expenses—				
From Library		20	0	0
" Boys' High School		80	0	0
" Girls' High School		70	0	0
" School of Art		30	0	0
" School of Engineering and Technical Science		30	0	0
" Museum maintenance		50	0	0
" School of Agriculture		100	0	0
Rent of new building from School of Engineering		180	0	0
Contribution from Boys' High School for services of Lecturer on Modern Languages		20	0	0
Interest on Current Account		36	8	10
Sale of text-books		2	0	2
Library fines		3	11	6
Balance		0	14	

£9,534 16 3

	<i>Expenditure.</i>		£	s.	d.
By Grant to School of Art, for instruction to pupils in drawing			120	0	0
Salaries			2,941	7	6
Insurance			25	15	8
Rates			77	17	4
Contribution to Registrar's office expenses			80	0	0
Contribution to College for services of Lecturer on Modern Languages			20	0	0
Examiners' fees			68	5	0
Leaving exhibitions			15	0	0
Incidentals			350	3	9
Chemicals for laboratory			24	8	11
Inspecting reserves and advertising			95	16	7
Interest on loan (£5,000)			306	0	4
Annual expense of workshops			25	0	0
Transfer of balance from Buildings Account			795	4	7
Dishonoured cheque			7	17	6
Prizes for 1891 (outstanding at 31st December, 1891)			30	12	6
Balance			60	4	2

£5,043 13 10

		<i>Expenditure.</i>		£	s.	d.
By Balance ..	..	..	..	£1,110	2	1

£1,110 2 1

	<i>Expenditure.</i>	£	s.	d.
By Legal expenses		1	0	9
Share of insurance, and inspecting securities		0	9	10
Balance		2,745	16	4

£2,747 6 11

		<i>Expenditure.</i>	£	s.	d.
By Balance, 1st Jan., 1892	..	..	147	18	9
New wing, fittings, flooring, &c.	..	..	84	8	0

£232 6 9

		<i>Expenditure.</i>	£	s.	d.
By Salaries			5,775	0	0
Incidentals (College)			435	6	11
" (Laboratory)			275	15	0
Insurance (College)			85	4	10
" (Laboratory)			19	13	9
Rates			175	9	11
Exhibitions			120	0	0
Contribution to School of Engineering (Scholarships)			90	0	0
Books for College library			94	18	10
Inspecting reserves and advertising			49	0	9
Repairs			86	4	0
Interest on loan			734	8	9
Contribution to School of Engineering and Technical Science			300	0	0
Physical measuring apparatus			86	9	9
Repairs to College lodge			11	13	0
Expenses of music lectures			22	10	0
Astronomical observatory (transferred to Observatory Account)			500	0	0
Connections with main sewer			115	0	0
Special contribution to School of Engineering, for 1892			250	0	0
Buildings Account, transfer of balance			232	6	9
Bonus to Acting-Registrar (3 months)			15	15	0
Fines to Magazine Club			9	18	0

£9,534 16 3

Balance, 1st Jan., 1893	..	..	£0 14 2
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College Fees of Professors Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Students' fees	1,967	14 0	By Professor of Classics	313	8 6
Fees of popular lectures	76	5 0	Professor of English Literature	746	11 0
Examination fees	114	9 0	Professor of Mathematics	305	11 0
Fines	6	7 0	Professor of Chemistry and Physics	237	6 0
			Professor of Chemistry and Physics (popular lectures)	76	5 0
			Professor of Biology	71	18 6
			Lecturer on Law	39	7 6
			Examination fees paid to Professors and Lecturers	64	18 10
			Supervisors' fees and expenses	36	4 1
			Other expenses of examinations	1	19 5
			Balance to College Maintenance	271	5 2
	<u>£2,164</u>	<u>15 0</u>		<u>£2,164</u>	<u>15 0</u>

School of Engineering and Technical Science Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Grant from Museum, Library, and School of Technical Science Endowment Ac- count	350	0 0	By Salaries	725	0 0
Grant from Museum, Library, and School of Technical Science Endowment Ac- count, for rent of new building	180	0 0	College—Rent of new building	180	0 0
Grant from Museum, Library, and School of Technical Science Endowment Ac- count, for incidentals	100	0 0	Scholarships	57	10 0
Grant from College Maintenance	300	0 0	Contribution to Registrar's office ex- penses	30	0 0
Grant from College Maintenance (special grant for 1892)	250	0 0	Incidentals	81	0 7
Grant from College Maintenance (for scholarships)	90	0 0	Gas	38	5 0
Students' fees	130	11 6	Appliances	225	13 7
Interest	3	7 7	Balance	71	8 0
Refunds (Sundries)	4	18 1			
	<u>£1,408</u>	<u>17 2</u>		<u>£1,408</u>	<u>17 2</u>
Balance, 1st Jan., 1893	£71	8 0			

Girls' High School, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1892	4,808	7 6	By Share of cost of insurance and inspect- ing securities	0	10 1
			Legal expenses	1	1 1
			Balance	4,806	16 4
	<u>£4,808</u>	<u>7 6</u>		<u>£4,808</u>	<u>7 6</u>
Balance, 1st Jan., 1893	£4,806	16 4			

Girls' High School, Investment Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Rent of quarter-acre section	54	0 0	By Balance, 1st Jan., 1892	900	0 0
Balance	900	0 0	Interest on investment (transferred to Maintenance Account)	54	0 0
	<u>£954</u>	<u>0 0</u>		<u>£954</u>	<u>0 0</u>
			Balance, 1st Jan., 1893	£900	0 0

Girls' High School, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st January, 1892	1,035	13 6	By Salaries	1,645	0 0
Interest on capital	237	3 10	Contribution to Registrar's office expenses	70	0 0
Rent of reserves	371	9 2	Insurance	14	14 5
School fees	1,640	2 0	Rent of section (Cranmer Square)	54	0 0
Interest on investment £900 (transferred from Investment Account)	54	0 0	Rates	35	18 9
Interest on Current Account	60	11 10	Inspecting reserves	10	4 0
			Examiners' fees	70	7 0
			Incidentals	221	10 2
			Scholarships and exhibitions	224	0 0
			Prizes for 1891	34	2 0
			Refund to Boys' High School of fees credited in error	2	2 0
			Balance	1,017	2 0
	<u>£3,399</u>	<u>0 4</u>		<u>£3,399</u>	<u>0 4</u>
Balance, 1st Jan., 1893	£1,017	2 0			

Deposit Account.

<i>Receipts.</i>			£	s.	d.	<i>Expenditure.</i>			£	s.	d.
To Balance	..	..	1,050	0	0	By Deposit in Bank of New South Wales for three months, at 3 per cent., 6th Oct., 1892	..	..	1,050	0	0
						By Balance, 1st January, 1893	..	..	£1,050	0	0

Mortgage of Freeholds.

<i>Receipts.</i>			£	s.	d.	<i>Expenditure.</i>			£	s.	d.
To Dawber, R., repayment of loan	..		1,050	0	0	By Balance, 1st January, 1892	..		80,368	19	6
Murphy, P. J., part repayment	..		133	15	0						
Sale of part of Burke's estate..	..		317	5	0						
Balance	..		78,867	19	6						
			<u>£80,368</u>	<u>19</u>	<u>6</u>				<u>£80,368</u>	<u>19</u>	<u>6</u>
						Balance, 1st January, 1893	..		£78,867	19	6

