

1890.
NEW ZEALAND.

EDUCATION : THE CANTERBURY COLLEGE

(PAPERS RELATING TO).

[In continuation of E.-7, 1889.]

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

1. 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 the 14th July, 1890, 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.

I have to report that at a meeting of graduates held on the 28th June, Mr. Thomas Walter Stringer was elected to the seat rendered vacant by the absence from the colony of Mr. J. N. Tosswill, a gentleman who took great interest in the work of the college, more especially in connection with the School of Agriculture.

The number of matriculated students attending the classes during the past year was 170, as against 165 for the previous year. The total number of matriculated and non-matriculated students attending lectures in 1889-90 was 346. The number of students attending each lecture during the last term was as follows:—

Classics.—Pass Latin: Translation, 34; composition, 39. Greek: Translation, 7; composition, 7. Honours Latin: Translation, 6; composition, 10. Teachers' Latin, 23.

English Literature.—Literature of 1800 to 1850, 62; language of Milton, Shelley, and Carlyle, 61; composition, 164; essay class, 118; art of Milton, Shelley, and Carlyle, 140. Honours Lectures: Philology, 20; criticism, 27. History, sixth to fourteenth century, 43.

Mathematics.—Lower division, 38; upper division, 5; mechanics and hydrostatics, 23; advanced mathematics, 3.

Chemistry and Physics.—Pass chemistry, 8; honours chemistry (organic), 6; teachers' chemistry, 9; pass physics, 27; teachers' physics, 15; practical physics, 3; honours physics, 4; elementary science (teachers' E and D), 39; laboratory practice (chemical), 18.

Geology.—Junior geology, 6; senior geology, 4; honours geology, 1.

Biology.—General biology, 6; junior botany, 7; senior botany, 7; honours botany, 1.

French.—Junior and senior, 19.

Jurisprudence and Law.—Jurisprudence, 8; constitutional history, 8; law (second section), 6; law (third section), 3.

Seven students from the college have this year obtained the degree of M.A.; Misses C. Lamb and L. H. Williams and Frederick G. Gibbs gained at the same time first-class honours in languages; T. S. Weston first-class in political science; J. M. Marshall first-class in mathematics, and second-class in languages; and Miss M. J. McLean and J. H. Turner second-class in languages. Eight students of the college have passed the final section of their B.A. examinations and had the degree conferred upon them (Misses E. M. Krull, M. C. Morrah, P. Myers, and A. E. Tindel, and Messrs. B. S. Bull, P. J. Cocks, T. R. Cresswell, and C. C. Plante); whilst twelve have passed the first section of their B.A. examination (Misses E. Aikman, E. Ainsworth, M. Hyndman, and J. Prosser, and Messrs. D. Bates, T. Hughes, H. Hutton, C. Hall, F. Pemberton, D. Purchas, F. Rowley, and R. Tolhurst). T. W. Beare passed the first section of the LL.B. examination, and Messrs. J. Innes, M.A., H. W. Weston and T. S. Weston, M.A., the second section. One senior scholarship, that in chemistry, was gained by Mr. B. S. Bull. The John Tinline Scholarship, for excellence in English language and literature, was gained by C. C. Plante of this college, who also gained the Bowen Prize for an essay on English history, whilst A. R. Kirk was *proxime accessit*. The college exhibitions, given for excellence in honours work at the college annual examination were awarded as follows: For Latin, T. R. Cresswell; for English, C. C. Plante; for mathematics, E. E. Hardcastle; for experimental science, B. S. Bull; for biology, P. Marshall; for political science and French,

F. A. Pemberton. The graduates of the University of New Zealand who have been educated at the college now number ninety-one, forty-seven of whom have obtained the degree of M.A., and forty-four the degree of B.A. Four of these have also obtained the degree of LL.B., one the degree of B.Sc., and one has gained the degree of LL.D. Of the Masters of Art, two gained double first-class honours, one a double first-class and a second, one a first-class and a second, twenty-four first-class honours, one a double second, eight second, and ten third-class. Thus, out of 231 who have taken degrees in the University of New Zealand, ninety-one belong to Canterbury College; out of the eighty-seven who have taken the M.A., forty-seven belong to it; and of forty-two who have taken first-class honours, twenty-nine belong to it. Of the seventy-two senior and third year and John Tinline Scholarships awarded by the University of New Zealand during the last thirteen years, the period during which the present scholarship regulations have been in force, forty-seven have been awarded to students of Canterbury College; of the fifteen 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, ten have been gained by students trained in this college, whilst the only three mentioned as *proxime accessit* have also been of this college.

The Board for some years past have considered that, so soon as the funds would admit of it, the subject of Modern Languages should be one of the first to benefit from any improvement in the financial position of the college, and decided to appoint a full-time lecturer. This subject has been taught for some time past by a part-time lecturer at a cost of £150 a year and fees. Applications were invited in the colonies for a full-time lecturer on modern languages, at a salary of £500 per annum without fees, the work to be commenced in the first term of 1891. Nineteen applications were received for the post, but the Board ultimately decided to appoint a Commission in England to invite applications for the position. Sir Dillon Bell and Mr. Kennaway have been asked to act, and associate with themselves a third gentleman. It will be noticed in connection with the appointment of lecturer to the School of Engineering and Technical Science, and also the proposed appointment of lecturer on modern languages, that the remuneration will be by salary only, and that the fees will be the property of the Board.

PHYSICAL LABORATORY.

Laboratory practice being now a university subject, the Board has voted the sum of £300 for physical measuring apparatus. Orders will be given on the spot for such of the apparatus as can be made here, the balance will be procured from England.

SCHOOL OF ENGINEERING AND TECHNICAL SCIENCE.

In consequence of the resignation of Mr. R. J. Scott in August last, the lectures given in connection with the School of Art had to be discontinued, and the Board asked the Chairman (Mr. F. de C. Malet) to visit Victoria and New South Wales to inspect and report on the various technical schools in those colonies. He made a report to the Board, of which the following is an extract:—

“I trust the Board will not think it out of place if I make a few remarks upon the subject which it will shortly be called upon to consider: the question of what action should be taken for the maintenance of the School of Engineering which was established by the Board in April, 1887, and also for carrying out one of the purposes for which the endowment for a School of Technical Science and other educational purposes contemplated by ‘The Canterbury Museum and Library Ordinance, 1870,’ was made. In order that the Board may have the whole matter before it, I think it would be well to set out the syllabus of lectures which has been adopted by the college as the course of instruction to be given in this department. As the result of observation in the other colonies, I have formed the opinion that the staff, (1) a lecturer in mechanical engineering, and (2) a lecturer in civil engineering, with which the college opened the school, is amply sufficient at present for its purposes. I might here remind the Board that though the School of Engineering in Melbourne was opened in 1861, it was not till 1882 that a professor was appointed. At Sydney the school was also opened by the establishment of a lectureship. I venture to think we may safely follow the example of those colonies and proceed cautiously, developing the department as the success of the school warrants and our means admit. I hardly think the time has yet come for giving effect to the resolutions of the Board passed in April, 1887, by making an appointment to the chair of engineering. The resignation of the gentleman who was filling the post of lecturer in mechanical engineering as a part-time lecturer, and the difficulty of filling his position in that way, has contributed to force upon the Board the reconsideration of the position. Moreover, the question of increased instruction, in consequence of having to provide for the second as well as the first year’s students, must have been dealt with before the opening of the term in March, 1890. I think it will meet present requirements if the Board renews the appointment of the lecturer in civil engineering. For the purposes of the School of Engineering, the teaching now given by the lecturer in civil engineering is, I think, sufficient. Before dealing with the question of the appointment of some competent person to continue the work begun by the late lecturer in mechanical engineering, I would like to lay shortly before the Board one or two points that should be borne in mind in filling the office. While the Board should not lose sight of the necessity of making provision in the School of Engineering other than that provided by the reappointment of a lecturer in civil engineering to enable such of our students who desire to do so to take a degree in the School of Engineering, which covers civil engineering, mechanical engineering, mining engineering, electrical engineering, surveying and architecture, it should also keep in view another side of the question which I venture to think is of almost paramount importance. I allude to a system of evening classes, by which foremen in factories and workshops, mechanics, apprentices, and others who are engaged during the day in or near the city, may be afforded the means of perfecting themselves in their respective vocations. That, I take it, would be carrying out in a way, and in no unimportant manner, one of the purposes for which the endowment for a School of Technical Science was made. It might not be out of place if I here draw the attention of the Board to what is being done in the Working Men’s

College at Melbourne—an institution that I was shown over when I was in Australia. A copy of the report and prospectus for 1887, and of the prospectus for 1889, I have caused to be laid upon the table. A reference to those pamphlets will show that a great work is being carried on in that institution, not only in the direction to which I have invited the attention of this Board, but in many other equally useful subjects, which are hardly within the province of this college. The Board, by the Ordinance, is charged with the duty of providing a liberal and regular course of education; and in founding a School of Engineering, and making due provision for its maintenance, it will have discharged in that direction one of the duties imposed upon it. But it has also cast upon it the administration of the funds of the endowment of the School of Technical Science; and this appears to me to be a fitting opportunity for the Board to consider the question from all its bearings. I think this college, looking to the experience in the other colonies, with their large populations, of the number of students in the Schools of Engineering at Melbourne and Sydney, cannot expect any considerable number of students to attend the lectures with the object of ultimately graduating in the School of Engineering. Hence the greater necessity, while providing instruction which will enable those to take a degree who wish to do so, to establish popular classes, and, by so doing, to offer to a very large class the opportunity of profiting by a course of instruction which cannot but prove of the greatest advantage to them in their respective callings, and open to such of them as may see their way to take advantage of it the means of obtaining a profession. I have satisfied myself that the whole of the elementary lectures could be given by means of evening classes, and thus made available not only for the students who intend to proceed to a degree, but for all others who may choose to attend them. These classes can be made to cover instruction in building construction, elementary steam-engine, geometrical drawing, freehand drawing, mechanical drawing, and a proportion of the lectures in the advanced steam-engine, applied mechanics, and elements of mechanism. In order to make these classes popular in the true sense of the word, the fee might be fixed at a price that would put them within the reach of all. Those who have watched the progress of events in the development of superior education in this district will remember that this college is the outcome of the evening classes initiated by the 'Collegiate Union.' The Canterbury College, as it exists at the present day, with an attendance of 240 students at the different lectures, had a very small beginning. Therefore, there is every reason to hope that the School of Engineering may be successfully established if it is launched on a proper basis—on one that will prove attractive to the very large and important class that I have already alluded to, and from which we may reasonably expect to draw a large number of students. I have referred to the fact that under any circumstances it would have been necessary for the college to provide increased instruction in the department of mechanical engineering before the commencement of the first term in March, 1890. I would therefore recommend the Board to appoint some competent person to the post of lecturer in mechanical engineering, who would devote the whole of his time to the duties of his office. The expense in the way of an increased vote for the salary of a full-time lecturer is one the college must have faced under any circumstances. If the college thinks well of the suggestions I have made, steps could be taken for the extension of the system of evening classes without any additional expense to the department by way of salary over and above that which must have been incurred to provide the increased instruction by reason of the lectures to be given to first- and second-year students. Both in Melbourne and Sydney the services of skilled workmen are employed in the laboratories of the University; but I do not see any necessity why this Board at present should be called upon to make any provision in that way.

“For the efficient establishment of the School of Engineering an outlay, though not necessarily by any means a large one, will have to be incurred for buildings. One of two ways may be followed, either by the erection of a temporary structure or by putting up a permanent building. The authority of His Excellency the Governor might be sought, as is provided by the College Ordinance, for the raising of a small loan for the purpose, the interest on which can be readily met out of the increased revenue of the endowment. In either case a loan would have to be raised if the college decide on the erection of buildings; it is only a question of amount. I fail to see how the work of the department can be done with advantage to the students or credit to the lecturers without the necessary buildings. The Board has before it the cost (£1,500) of the buildings of brick, with a slate roof, erected by the University in Sydney and the accommodation provided. Presuming that a similar sum were spent by this college, the annual charge for interest would not exceed £90 a year. I venture to think it would be better to put up a permanent building at a reasonable cost rather than erect some temporary structure, possibly of corrugated iron. It would not only, I believe, be cheaper in the end, but would have this additional advantage, which should not be lost sight of, of being, I trust, in harmony with the building in which we are now assembled. The Board, no doubt, will agree with me that on the college site we have, as it is, more than a sufficient variety in material in our buildings. A certain expenditure will also be necessary for plant, but the amount to be spent from time to time would be regulated by the Board. A total outlay of about £1,500, extended over a period of, say, four years, would, I believe, be found sufficient for the efficient working of the department for years to come. That portion of the plant—(1) a testing machine, arranged to test strength and elasticity of materials in tension and compression; (2) a transverse strength-testing machine; (3) verniers and measuring appliances—which would be required at once might be purchased out of capital, the remainder being provided out of income as the funds would allow of it.”

A Committee was appointed by the Board to investigate the funds available, and to draw up a scheme for the working of the department. On the recommendation of the Committee, it was decided to appoint a full-time lecturer to take charge of the school, at a salary of £550 per annum, but without fees. The appointment was offered to and accepted by Mr. R. J. Scott. It is in the knowledge of members of the Board that Mr. Scott had for some considerable period delivered lectures on practical geometry, mechanical drawing, and the steam engine, at the School of Art.

The Board further decided to reappoint Mr. E. Dobson as part-time lecturer on civil engineering for the year 1890. A Committee is now engaged in considering the subject of scholarships, exhibitions, and certificates, in connection with the School of Engineering and Technical Science. The work is being carried on in one of the lecture-rooms of the college. The subject of the lectures, and the numbers attending the classes, are shown in the following statement:—

Statement of Lectures delivered at the School of Engineering, first term, 1890. [The attendance in each case is given in brackets]:—

First year's lectures: 14 (30) on freehand drawing, consisting of short lectures on constructive details, and sketching of same by students; 14 (31) on practical geometry, P. and S., a preparation for mechanical drawing; 12 (17) on the steam-engine (first course); surveying, nil.

Second year course: 14 (2) on mechanical drawing; 13 (14) on applied mechanics; 14 (3) on building construction; 14 (1) on principles of civil engineering; 14 (1) on surveying.

Mechanical and Civil Engineering.—First Year: (a.) Freehand drawing (Monday, 7 to 9), for mechanical and civil students—Sketching from diagrams, models, and machines; sketching and instruction in the design of standard constructive details; sketching to scale. (b.) Practical geometry (Wednesday, 7 to 9), for mechanical and civil students—Use of drawing instruments, practical plane geometry, practical solid geometry, practical projection and expansion of surfaces. (c.) The steam-engine (Friday, 8 to 9), theory of, and practical construction, for mechanical students—Early forms, improvements of Watt, theory and nature of heat, conversion of heat into work, experiments of Rumford, Davy, and Joule, total heat of evaporation, condensation of steam, expansion of gases, expansion of steam, distribution of steam in the cylinder, valves and valve gear, Leuner's diagrams, the steam jacket, the compound engine, triple expansion engines, the indicator; nominal, indicated, and brake horse-power, governors and details considered; various types of stationary, marine, and locomotive engines, types of boilers, proportion of boilers, design and calculation of strengths, construction of boilers. (d.) Surveying (Tuesday, 7 to 8; Saturday, 3 to 5), for civil engineering students—Mensuration, field work with the chain, setting out figures.

Second Year: (a.) Mechanical drawing (Monday, 7 to 9; Wednesday, 7 to 9), for mechanical and civil students—Elementary mechanical drawing, pencil and ink. (b.) Applied mechanics (Thursday, 8 to 9), for mechanical and civil students—Force, matter, velocity, energy, inertia, work, mechanical powers, reduplication, differential motions, wheels in trains, aggregate motion, link work, parallel motion, conical pendulum, the governor, centre of gravity, angle of repose, friction, equilibrium and pressure of fluids, pumps, hydraulic machinery. (c.) Surveying, for civil engineering students—Systems of survey, traversing with chain and theodolite, keeping field-books, plotting surveys, map drawing. (d.) Building construction, for civil engineering students—General principles in relation to materials, foundations, walls, beams, arches, floors, and roofs. (e.) Principles of civil engineering, for civil engineering students—General principles of laying out roads, railways, canals, and channels for drainage and irrigation.

Third year: (a.) Mechanical drawing, for mechanical and civil engineering students—Mechanical drawing from sketches, drawing, office practice, production of working drawings, designing. (b.) Strength of materials (Applied Mechanics, continued), for mechanical and civil engineering students—Tensile, compressive, shearing, transverse, and torsional stress; elastic strength, absolute strength, modulus of elasticity, permanent set, riveted joints, pin joints; strength and construction of pillars, beams, roofs, girders, and trusses; deflection, wrinkling, strains, bursting and collapsing load of tubes, fatigue of materials, factor of safety. (c.) Elements of mechanism and mechanics of machinery, for mechanical students—Machines, constrained motion, virtual centre, centrode and axode, link work, spur wheel, trains, wheel teeth, epicycle gearing, screw gearing, cam trains, ratchet and click trains, parallel motions, crank and connecting rod, relative velocities, momentum, moment of inertia, the fly-wheel, the universal joint, the ball and socket, bearings and pivots, belt gearing, rope gearing, friction in machines, machine detail and construction. (d.) Surveying for civil engineering students—Minor triangulation, topographical surveying, telemetry and use of plane table, river and marine surveying, sections. (e.) Building construction, for civil engineering students—Constructive details in carpentry, joinery, and masonry, bridge and roof construction, principles of constructive design. (f.) Principles of civil engineering, for civil engineering students—Road and railway construction, river conservation and improvement, ship canals, harbour works, lighthouses.

Fourth year: (a.) The steam engine, for mechanical students—Advanced theory of, practical experiments on steam-engine and boiler tests by students. (b.) Materials and resistances, for mechanical and civil students—Practical experiments on, by students. (c.) Naval architecture, for mechanical students—Displacement, buoyancy, stability, propulsion by steam and sail, wave line theory, Froude's experiments, designing, laying off, fairing; construction of ships in wood, iron, and steel, details. (d.) Surveying, for civil engineering students—Geodetic survey, primary triangulations, setting out Crown lands, engineering survey, gauging rivers, measurement of earthwork, altitudes by barometer. (e.) Building construction, for civil engineering students—Working drawings, specifications, contracts, taking out quantities, preparing estimates, supervision of work. (f.) Principles of civil engineering, for civil engineering students—Arrangement of railway-stations, street tramway, water-supply, warming and lighting, sewerage and surface drainage, telegraphs. (g.) Applied electricity, for mechanical students—Electric lighting, dynamo-electric machinery, arc and incandescent lamps, various systems of lighting, electric transmission of power, electric motors, storage of electricity, electric railways, electric propulsion of vessels, electro-plating, electric welding, &c.

With a view to provide for the proper accommodation of the students, whose numbers are increasing, the Board determined to erect additions to the college, with such facilities for the special needs of the school as the experience of the lecturer in charge might suggest. A contract for the work has been let. The new wing will provide all the accommodation required, and will be

a handsome addition to the pile of buildings occupied by the college. The school will rent from the college the portion especially erected for its use. The department is under the control of a combined committee, consisting of the College and Museum Committees. A systematic method of instruction has been entered upon. The attendance has steadily increased, until at present there are forty names on the books. In addition to which the matriculated students have attended lectures on mathematics, mechanics, physics, and chemistry. The present accommodation is strained to its utmost limit, and some inconvenience will be felt until the new building is available for occupation. The great majority of the students are of the class known as extra students, and consist of foremen, mechanics, and apprentices employed at the local engineering establishments. The matriculated students are four in number, three being on the mechanical and one on the civil engineering side. Two of these students hold entrance scholarships. The leading engineering firms in England have been invited to state the terms upon which they are prepared to supply the experimental machinery required for the laboratory.

GIRLS' HIGH SCHOOL.

During this year there have been a few changes in the staff. Miss Gibson, one of the assistants, has been appointed Lady Principal of the Nelson Girls' College, and to fill the vacancy others in the school have been promoted, and a part-time teacher appointed. The classes for cooking were continued most successfully till the end of last year. This year, on account of the illness and death of the teacher, Mr. Morton, nothing has been done in this subject. Steps to fill the post of teacher of cooking at the Girls' High School, by advertising in the local papers, were taken by the Board. This action resulted in only three applications being received, but no appointment was made. Subsequently advertisements were again inserted throughout the colony, and these will be considered by the Committee at an early date. The resignation by Mr. Firth of the position of instructor in gymnastics was received, and Major Richards was appointed to succeed him. The dress-cutting classes grow larger every year, and at present consist of 26 girls. A large number joined the swimming classes last season. The number of pupils last term was 150; the number attending at the same time last year was 141. At the entrance examination of the University held last December 13 girls entered for matriculation, and 12 passed. Of the four girls who entered for junior University Scholarships, two were successful in gaining them, and were respectively sixth and eighth on the list. The other two candidates had good places in the honours list—namely, the eighteenth and twenty-first respectively. At the examination held last April by the Board of Education one girl gained a scholarship in class D. The school was examined at the end of last year, and the reports of the examiners (Professor Cook, Professor Bickerton, the Rev. C. Turrell, Mr. H. O. Forbes, and Mr. W. F. Ward) were very favourable. The water-supply at the school has been greatly improved by the sinking of a new well to the second stratum.

BOYS' HIGH SCHOOL.

The number of pupils has increased from 128 last year to 134 this. The Board has sanctioned the appointment of two part-time masters—Mr. O. T. J. Alpers, M.A., to take charge of the preparatory class; and Mr. R. Speight, M.A., to assist in the mathematical and science work. Mr. Speight also has been placed in charge of the boys who are exempted from Latin. These have now, therefore, a special master during the Latin period, and in place of Latin learn mensuration, drawing, and science. The instruction in carpentering in the school workshop is still carried on successfully, and some creditable specimens of workmanship were exhibited on the prize day in December last. There are now in the workshop 18 pupils. The cadet corps and swimming classes have also been maintained. For the last two years a competition for the Australasian Society's medal for life-saving has been held in the school bath in the month of March, and has evoked considerable interest among the boys. The bath has been connected with the main drain, and can now be cleaned more frequently, more effectually, and at less cost than before. In January last, also, a well was sunk to the lower stratum, which provides to the bath an abundant supply of fresh water. At the entrance examination of the University held last December seven boys entered for matriculation, and six passed; and one boy passed the medical preliminary examination. Three boys also competed for junior scholarships, and one was successful, being placed third on the list of ten scholars; while the two others obtained good places on the honours list—namely, the fourth and seventh respectively. At the University examination for the M.A. degree, Mr. T. H. Green, an old pupil, obtained first-class honours in chemistry. At the examination held last April by the Board of Education, the three candidates from this school were successful in winning the three scholarships awarded in Class C. In March last the Board granted remission of fees to the end of the year to five scholars and exhibitors who showed promise, and whose scholarship or exhibition had just expired. Mr. F. C. Faulkner, B.A., has resigned, having been appointed to the headmastership of the Perth High School, and the Board has decided on advertising for a master in his place, at a salary of £300 per annum.

MUSEUM.

During the year elapsed since the 1st July last, the improvements then in progress have been steadily pushed forward. The chief alteration has been the removal of the general geological collection from the New Zealand room, and the distribution of the osteological specimens into the cases beside their stuffed representatives, by which arrangement space was found for the technological objects. These have, therefore, been more advantageously exhibited than before. Towards the better display of objects illustrating the natural history of New Zealand the work of the past year has been chiefly directed. Donations have been made to the Museum almost as numerous as in past years, thanks to the liberality of the public, chiefly of Canterbury. It is encouraging to have to record that the number of visitors to the Museum has been largely in excess of the last year, not alone of strangers (attracted to New Zealand by the Dunedin Exhibition), but of townspeople as well. Many travellers, more or less interested or distinguished in science, from England,

America, and Australia have, attracted by its fame, come to Christchurch expressly to visit the New Zealand collections stored in the Museum. The publications of scientific societies at Home, in America, and in Australia have, as usual, most generously and gratuitously been continued. An oil-painting of the late Mr. George Gould has been purchased by the department and placed in the Museum. This gentleman, as is well known, was at all times a very liberal contributor to the interesting and valuable collections in the Museum. During the six months ended the 31st December, 1889, the sum of £50 was expended in the purchase of books for the Museum library, as well as £25 for binding volumes already on the shelves; and for the financial year ending the 31st December, 1890, a further sum of £100 has been placed on the estimates for the same object. Some damage having been done to various exhibits during the year, it was necessary to appoint a doorkeeper with a view to the better protection of property and the preservation of order in the building. A very handsome gift, the model of the s.s. "Arawa," has been presented to the Museum by Messrs. Denny Brothers, of Dumbarton, through Mr. Peter Cunningham, for which the thanks of the Board have been forwarded.

SCHOOL OF ART.

The art-master reports a gradual advance in quality in the work performed in the school during the year. The numbers attending the morning class for the three terms of the past season have been respectively 27, 30, and 31, and the evening class 62, 69, and 66. There has been a slight increase in each class during the year; and there is a still further increase during the present term. The students from the Normal School, after the lapse of a year and a half, again attended during the second term of the year 1889 for instruction in elementary art. The hours appointed are from 4 o'clock to 6 o'clock on Friday afternoons, after their ordinary work is finished, but, notwithstanding, fair work has been accomplished. At the Boys' High School, 115 boys have received tuition for four hours in each week, and an extra class for three hours weekly has been attended by them in the School of Art on the subjects of plane and solid geometry, freehand and model drawing. Six free studentships were offered for competition on the work of the year in landscape, drawing from the life, architectural drawing, and "light and shade;" three in the morning class were awarded to Misses Stoddart, Meeson and Munnings (equal), and Culliford, and also three in the evening class to Miss Munnings and Messrs. Fielder and Chaplin. The boys who gained the scholarships given by the Board to district schools have attended regularly during the year, and have made good progress. Two of the names appear in the prize-list. The art-master suggests that in future perhaps it would be well to open the competition for scholarships to all the district schools, instead of only to ten as at present. A series of drawings, twenty-seven in number, were sent to the Dunedin Exhibition, and four first- and four second-class orders of merit were gained. At the competition of the Auckland Art Society, held last April, three prizes were won by the students of the School of Art. The annual exhibition of works by the students was held in February last, and was largely attended. All branches of study were represented, and progress was more especially evident in the sketching from nature and drawing from the antique. Prizes were awarded on the result of the work of the year as follows: Two in freehand from the flat, two in model drawing, one for drawing from the antique, and one for decorative design. The usual second-grade examinations were held last December, with the following results in passes: Freehand, 46; model, 35; perspective, 5; blackboard, 8.

PUBLIC LIBRARY.

During the year just ended, some additions have been made to the house of the sub-librarian adjoining the library, and it has been placed in thorough repair. A new boiler for the heating apparatus has been provided. The usefulness of the library to the public increases yearly, and the advantages of it are more appreciated. A new catalogue for the department was out of the printer's hands last September; that edition, together with the supplements for the December and March quarters, contains about 12,000 volumes.

Circulating Library.—During the year 1,063 new books have been added, while 166 have been taken out of circulation, and 10 placed in the reference library. The total number of books in this library, according to the return for the previous year, amounted to 11,144. At the present date, allowing for the volumes added and those taken out of circulation, the total stands at 12,031. Seventy-two magazines of various kinds and nine newspapers are subscribed for. Two new magazines are now regularly taken in, "The Centennial" (Sydney), and the "New Review" (London). Two hundred and eighty-eight works of fiction and 14 other volumes have been ordered from England, and are expected to come to hand during the present month. The number of books issued to subscribers weekly is over 2,500. The average daily attendance in the three departments is over 600, and the total number of subscribers to the circulating library amounts to 1,300.

Reference Library.—During the year 312 works have been added, making the total number 8,046 in this department, and some valuable standard works have been lately received, and others are expected to arrive by next mail. Ten magazines are now placed each month on the table of the reference library. A new book-case, capable of holding 500 volumes, has been placed in this department.

Reading-room.—The following papers—English, 8; American, 1; Australian, 7; New Zealand about 45; and 15 magazines—are taken in; while *The Queenslander*, *Adelaide Observer*, *Tasmanian Mail*, and *Sydney Daily Telegraph* have been recently added.

SCHOOL OF AGRICULTURE.

During the first term of 1890 the number of students increased to forty, owing, it is presumed, to the reduction in the fees. There is bedroom accommodation for about five more students, but the laboratories and studies are each now taxed to their full capacity. From a report of the Director, the cost of each person in the establishment may be seen to be £28 13s. 9d. per annum, as compared with £25 2s. 6d., the cost in 1889 at Dookie College in Victoria, mentioned in the report of the late

Royal Commission. The small excess is in cost of servants, due to our more extensive buildings, and to expenditure upon fuel, an item which does not appear in the Dookie accounts. Provision has been made for the erection of a new shearing shed, which will be fitted with shearing machines as soon as these are obtainable. The Director has also been authorised to take steps for the inclusion of poultry-farming and bee-keeping on a sufficient scale. A redistribution of the work of the teaching staff has been made, which will allow of more attention being devoted to entomology, botany, and horticulture, especially in the direction of field and laboratory work. More attention, also, will be devoted to experimental work. The Director reports that owing to the attacks of the cabbage-moth, all manurial experiments upon the turnip crop have proved failures. He has very numerous varieties of grain under trial, the number of kinds of wheat alone being about eighty, and experiments with ensilage, grasses, &c., are carried on as usual. The grain yield on the farm last harvest was very satisfactory, the average being as follows—namely, Wheat, per acre, $42\frac{1}{2}$ bushels; oats, per acre, $63\frac{1}{4}$ bushels; barley, per acre, 35 bushels; or an average, all round, of $45\frac{1}{2}$ bushels per acre, the total amount of grain grown being 9,300 bushels. The college and farm buildings are all in good order, and will require but little attention during the next twelve months. The annual report of the practical farm examiners (Messrs. J. W. Overton and W. Boag) is very satisfactory. The farm, fences, stock, &c., are described as being in good order during the year, and the work done by the students—ploughing, shearing, harvesting, and threshing—as most creditable. The financial year of the School of Agriculture has been made to terminate on the 30th June each year, as being much more suitable than the 31st December. It has been arranged that reports upon results of experiments interesting to the farming community shall be printed and circulated. This course is adopted by various agricultural colleges and experiment stations; the object being to bring any experiment quickly and prominently before the public.

2. ANNUAL REPORT OF THE DIRECTOR OF THE SCHOOL OF AGRICULTURE.

SIR,—

Lincoln, 2nd July, 1890.

I have the honour to submit my report upon the work of the School of Agriculture for the past twelve months, together with balance-sheet of the farm and particulars of stock, with valuations, harvest returns, &c. Estimates for the ensuing twelve months have been furnished by me, and I have no doubt will be submitted in their complete form with this report.

Students.—The number of resident students is 38, and of out-students 2, making a total of 40. The increase in the number is doubtless due to the reduction of the fee. So far the reduction has proved as successful as anticipated, but I still hold to the opinion that the best results would be obtained from the establishment of scholarships, were this practicable. A low fee will increase our numbers, probably keep us full, but is not likely to increase the proportion of workers. I am not satisfied with the indoor work of a large proportion of the students; and not only is it hard and thankless work to try and teach these something, but the school itself is harmed by the passing through it of a number of idle or thick-headed youths who are no credit to the place, but, on the contrary, get it a bad name.

Cost of Students.—From a return attached it may be gathered that the cost per head in 1890 of all persons in the college has been at the rate of £28 13s. 9d., compared with £25 2s. 6d. at the Dookie College, Victoria, for 1889. The cost of food is almost identically the same, the extra cost of servants at Lincoln being due to our much more extensive buildings, whilst the item “fuel” does not occur at Dookie, situated as it is in a timbered country. This method of calculation is that upon which is founded the “cost of students” at Dookie, given in the report of the late Royal Commission. Of course it is incorrect and misleading.

Estimates.—These for the financial year ending 30th June, 1891, are presented in a somewhat different and, I think, improved form. The estimated total expenditure shows a slight real decrease, though the actual total is larger, through provision having to be made for an increased number of students. The estimated receipts also show an increase, there being a fair balance to credit.

Teaching Staff.—I propose trying the redistribution of the duties of the two masters, as arranged with the Committee, during the ensuing term. As in the case of each master part of the work required would be new to him, I look upon the arrangement as merely tentative, but hope it will prove successful, more especially as I have of late found natural-science subjects unpopular with students, and I wish to make them take a greater interest in this important branch of our teaching by making it more practical.

Farm.—The harvest returns for 1890 were good, the total amount of grain grown on the farm being 9,300 bushels. The average per acre was as follows: Wheat, $42\frac{1}{2}$; oats, $63\frac{1}{4}$; barley, 35; the average all round being $45\frac{1}{2}$ bushels per acre. The condition of the farm has been described in the annual report of the examiners in practical agriculture. The cropping for the ensuing year will include about the usual acreage. The winter crops have all gone in well, and are all above ground. The live-stock on the farm comprises: Sheep, 1,052; cattle, 67; pigs, 82; horses, 16. The valuation of live and dead stock amounts to £4,088 1s. 3d.

Experimental Work.—I have continued experimental work with turnips and manures, but the persistent attacks of the cabbage-moth have rendered this all abortive. I have also done as much with ensilage and the various kinds of grain as could be accomplished in the ordinary course of farm work, as I have had no special fund for the work. I may say that I have over eighty varieties of wheat, mostly in small lots, under trial, as well as other grains, and all the procurable grasses, &c.; but experimental work should be largely increased, and I have ventured to place a small sum on the estimates for the year for this work.

The Chairman, School of Agriculture Committee.

I have, &c.,

W. E. IVEY, Director.

Profit and Loss Account of the School of Agriculture for the Fifteen Months ending 30th June, 1890.

Dr.				Cr.			
	£	s.	d.		£	s.	d.
To Rent	15	0	0	By Manual labour	599	8	11
Tillages	91	3	5	Harness	3	0	8
Cattle and dairy	212	18	0	Implements	149	19	2
Sheep	662	12	0	Horses	265	9	9
Pigs	103	8	1	Seeds purchased	117	5	4
Grazing, and grass-seed	43	5	3	Manures	100	19	4
Wheat	351	19	7	Sacks	42	1	10
Oats	138	18	7	Fuel	26	12	7
Barley	106	16	11	Rates	22	15	3
Vetches	24	1	6	Trade accounts	224	14	9
Peas	56	4	7	Balance	300	6	3
Straw	4	0	0				
Potatoes	42	5	11				
Total	£1,852	13	10	Total	£1,852	13	10

Comparison of Cost of Lincoln and Dookie Colleges, as to cost per head.—Number of persons in residence—Dookie, 1889, 52; Lincoln, 1890, 51. Meat, milk, butter, cheese, &c.—Dookie, 1889, £619 3s. 4d.; Lincoln, 1890, £568 2s. 8d. Groceries—Dookie, 1889, £400 12s. 10d.; Lincoln, 1890, £434 19s. 2d. Wages—Dookie, 1889, £286 15s. 7d.; Lincoln, 1889, £382 10s. 10d. Fuel—Dookie, 1889, nil; Lincoln, 1890, £72 5s. 2d. Totals—Dookie, 1889, £1,306 11s. 9d.; Lincoln, 1890, £1,457 17s. 10d. Cost per head—Dookie, 1889, £25 2s. 6d.; Lincoln, 1890, £28 13s. 9d. At the Lincoln account the expenditure for the first half of 1890 has been multiplied by two. The difference in cost is due to the more extensive buildings at Lincoln, requiring more servants' labour, the students having better accommodation, and to cost of fuel at Lincoln.

3. ANNUAL REPORT OF THE ART MASTER.

SIR,—

10th July, 1890.

I have the honour to submit to you the report for the year—May, 1889–90.

Morning Class.—The numbers attending this class compared with former years have been as follows:—

	Second Term.	Third Term.	First Term.
1886–87	12	12	21
1887–88	12	20	24
1888–89	17	26	31
1889–90	27	30	31

This class has again made a further advance both in numbers and in efficiency, and during the year some very satisfactory work has been done by them. The class for sketching from nature has gone out on Tuesdays and Thursdays, and, judging by the result as seen in the annual exhibition, has made more progress than previously. The same course has been followed this year as last, *i.e.*, the class has been divided, the elementary portion working in “black and white,” and the more advanced in colour. The Director of the museum has again kindly allowed the use of the statuary gallery, and during the spring and summer terms I have sent a class over for one morning a week to draw from the antique, as we have very few casts of the figure in the school. They thus get good practice in outline, but, as the light is so diffused, it is impossible to study light and shade properly there.

The life class has been held twice a week throughout the year. All the members are now working in colour. Painting from still life, and all other preparatory elementary work, has been carried on.

The three free studentships in this class have been awarded to Miss M. Stoddart (landscape), Miss E. G. Culliford (light and shade), and Misses D. Meeson and E. E. Munnings, equal (drawing from life).

Evening Class.—As compared with former years the numbers attending this class have been as follows:—

	Second Term.	Third Term.	First Term.
1886–87	50	55	61
1887–88	73	78	63
1888–89	69	54	75
1889–90	62	69	66

This class has again held its own, in some branches surpassing the work of the previous year, notably in drawing from the antique; but we are still handicapped by the want of convenience and provision for the further education of the advanced students, and so suffer by their leaving us. The life classes, both “draped” and “nude,” have been well attended during the year, and if we could have them, say, four times a week instead of twice as at present, it would be the means of retaining more students in the school. With the grant of £20 allowed this year by the Board I shall be enabled to partially supply the deficiency of the school in the direction of casts and objects as examples and for purposes of study. A class for modelling in clay was started last term, the object being to give a more practical and familiar idea of form. It has been found very beneficial, and is being continued this term with an increase in numbers. The other work of this class has comprised freehand, model, geometry, perspective, light and shade, architectural drawing, and decorative design.

The three annual free studentships in this class were awarded to Miss E. E. Munnings (drawing from the life), Mr. A. W. Fielder (architectural drawing), and Mr. G. O. Chaplin (light and shade).

Normal Students.—After the lapse of a year and a half, an arrangement was made, at the beginning of the second term, 1889, by which the students of the Normal School again attended the School of Art. They come from 4 to 6, on Friday afternoons, after their ordinary school work is over, and, considering how unsatisfactory this time is, some fair work has been done by them. At the beginning of this year I pointed out to the Board of Education the unwise policy of sending the students at this time, but, so far, they have been unable to change it. Until this is done, entirely satisfactory results can scarcely be expected.

Teachers' Class.—As the Board of Education has been unable to arrange for the teachers and pupil-teachers to come again, we started a class for them at the commencement of this term, from 9.30 to 12.30 on Saturday mornings, and, judging by the number who come (over seventy), it has met a felt want, as otherwise they have no means of qualifying themselves in this subject.

Boys' High School.—115 boys, against 113 last year, have received instruction in freehand, model, plane and solid geometry. The time has been divided into—freehand, three hours; model, one hour; geometry, one hour; and a special class has come, for three hours per week, to the School of Art, for model, cast drawing, and geometry.

Public-school Scholarships.—The boys who gained the scholarships given by the Board to ten of the district schools have attended regularly during the year and have made good progress, two of them appearing in the prize list. The competition for the scholarships was held again last January, when representatives from six out of the ten schools competed. The result was as follows, according to the percentage obtained by the first two boys, and showing the position of each school: G. R. Hart, Normal School, 87 per cent.; C. Edkins, Ferry Road, 75 per cent.; F. Strong, West Christchurch, 70 per cent.; J. Campbell, Papanui, 65 per cent.; B. S. H. Hill, St. Albans, 64 per cent.; F. H. Cotton, Richmond, 46 per cent. As only six schools competed, I should recommend that, in future, it be open to all the district schools, instead of only to ten, as at present.

Dunedin Exhibition.—A series of drawings (twenty-seven in number) illustrating the various branches of work was sent to the Dunedin Exhibition, and four first- and four second-class orders of merit were gained. This was in competition with the other schools of the colony, and I think it would be very beneficial if a similar competition could be held annually, as students would be able to compare their work with that of their fellow-students in other parts.

Auckland Exhibition.—At the competition of the Auckland Art Society, held last April, three prizes were won—by Miss D. Meeson, for (1) decorative panel in oil colour, (2) landscape in oil colour, and by Miss E. E. Munnings for (3) still life in oil colour.

Annual Exhibition.—The annual exhibition of works by the students was held last February, and was largely attended by the public. All branches of study were represented, most progress being visible in the sketching from nature and drawing from the antique.

Prizes.—On the result of the year's work prizes were awarded as follows: Freehand: First, T. Rides; second, St. G. Atkinson. Model: First, C. E. Piercy; second, G. Peacock. Drawing from the antique: First, E. G. Deakin. Decorative design: First, G. W. Bradley. I have again to thank Messrs. A. J. White and Whitcombe and Tombs for their kindness in giving prizes to the school. It would be a great help to the school and an encouragement to the students if the Board could offer one or two good prizes.

Examinations.—The annual second-grade examinations were held last December, with the following results compared with the past three years:—

	Freehand.	Model.	Geometry.	Perspective.	Blackboard.	Full certificate.
1886 ...	48	27	13	7	7	6
1887 ...	84	42	31	5	0	0
1888 ...	30	29	11	5	0	0
1889 ...	46	35	0	5	8	5

Advanced second grade, or elementary Art Teacher's certificate: Light and shade—R. E. Aldridge (personal examination), pass (ex). Group of models in sepia—R. E. Aldridge (personal examination), pass. Class-teaching—A. S. Taylor (personal examination), pass. Full, Art Teacher's certificate—A. S. Taylor.

Appointment.—Mr. W. K. Sprott was appointed assistant in the evening class for the present term, with a view to permanent employment if the numbers justify it.

The school has now been working eight years. Several students have been with us some years, and are now doing advanced work. If the Board can arrange more convenience and provision for these, as I have suggested in my letter of last December, the school may progress in usefulness and efficiency.

In conclusion, I wish to say that my assistants Messrs. A. W. Walsh and W. E. Chapman have given me good help during the year.

F. de C. Malet, Esq., Chairman.

I have, &c.,

G. HERBERT ELLIOTT.

4. ANNUAL REPORT OF THE CURATOR OF THE MUSEUM.

SIR,—

1st July, 1890.

I have the honour to submit my report on the Canterbury Museum for the year which terminated on the 30th June, 1890.

In several of the departments extensive alterations have been made. The general geological collections have been removed from the gallery of the New Zealand room, and have been placed in what was formerly the technological room, accommodation for the technological objects having been found by removing the contents of the somewhat anomalous "skeleton-room" into the cases in which these representatives are displayed. The new geological room will, it is hoped, when I have

been able properly to arrange the specimens, afford greater facilities for study, and be more instructive to the general public than it has hitherto been. The change of the general geological collection has been made in order to gain the additional space which has been so much required for the better display of the purely New Zealand exhibits; but ere long more space still will be required for them if the natural history, geology, botany, and ethnology of the colony are to be represented with the prominence they demand. It may be necessary, therefore, at no distant future, to change the ethnological room into the New Zealand room, and *vice versa*. A great authority on museums has lately drawn attention to the definition of a well-arranged museum as a series of instructive labels illustrated by well-selected specimens. Towards the attainment of such a well-arranged museum my attention has been chiefly devoted during the past year. In most of the galleries, not only duplicates, but an excess of specimens illustrating the various subjects, have been exhibited. Two great evils at least result from this state of things: the young student is confused instead of being enlightened by the multitude of objects he has to observe; and the surplus specimens are meanwhile rapidly deteriorating from the effects of dust and light. Both in the general and in the New Zealand collections of birds, I have greatly reduced the number of set-up specimens. Those that have been removed from the cases, after being relaxed and dismounted, have been deposited in drawers where they may be studied by any one who desires to examine them more closely than can be done in the galleries. The laborious but essential task of writing clear and sufficient labels for the specimens has been proceeding slowly during the past twelve months. As nothing in the shape of a catalogue of the contents of the museum was left by my predecessor, the difficulty of correctly labelling the collections is enormously increased and becomes more felt as I proceed; but years must elapse before the work can be overtaken. For six weeks I had the assistance of Mr. H. Suter in labelling and cataloguing the New Zealand fossils. His careful and neat-handed work deserves to be specially mentioned. It is to be regretted that the funds of the museum were too limited to continue his valuable services. Indeed, the sum of £200 for the maintenance and for the general expenses of the museum, as well as for the purposes of exchange, is too small for so extensive an institution. In the mammal-room in the New Zealand gallery, and in the ethnological room, the cases, re-formed from those which stood in what has now become the geological room, has been set up; but from want of funds they cannot be finished, painted, or varnished, and will have to remain in their present state for the next six months.

The repairs to the roof of the ethnological room have proved fairly satisfactory. There still exists now only one small leak; other leaks have appeared in the roof of the tower and of the picture gallery, otherwise the state of the buildings calls for no remark.

To the library has been added during the year an instalment of the Scientific Reports of the "Challenger" Expedition. A number of books (between forty and fifty volumes), which for the last ten or fifteen years had been erroneously supposed to be the property of the museum, have been returned to the Philosophical Institute of Canterbury, to whom they rightly belonged. This has materially depleted the already poor library of the museum of some of its most necessary books. I regret to report that this still insufficiently-equipped library has during the period covered by this report been a great hindrance to efficient work. Many books already named and pointed out to the Committee, which are essential to the working-library of a museum, have long been in the reference department of the Public Library, an institution under the Board. The works I refer to are almost valueless to the general reader, and especially so in their present situation. They do not appear to have been consulted with any frequency by the public, as they are as unsullied as when they left the publishers. They are nearly useless even to the zoologist or botanist, apart from the specimens he may be referring to. In the museum library they would be as open to the public for consultation as at the reference library; and the consultation of books in the museum, and not in the reference library, is of daily occurrence, and, moreover, be of much greater use there to any one who may consult them, as he has the chance of having specimens near him, or he may ask for such as the museum possesses to be brought to the table where he is studying. The temporary loan of one volume at a time brought from a distance is of little use for museum purposes, as I need scarcely assure the members of the Board, who know what is required for the identification of species. As reference works for museum purposes must be always at hand, and all at hand together, I would suggest again to the Board the great advantage to be derived to the museum by the transference of the books referred to from the reference library to the museum buildings. These expensive works must otherwise be sooner or later obtained for the museum.

No additions have been made to the Art Gallery during the year. The representatives of Mr. Justice Johnston have, on the other hand, removed the deposits of pictures and china made by them. It is with regret that I have to report that Jourdan's large picture of "Leda and the Swan" has begun to show signs of deterioration, in the cracking of the paint in many parts of the picture. Whether this proceeds from the effects of the atmosphere in the Museum or of defect in the pigments used by the artist it is difficult to say. In this connection I have to draw the attention of the Board to the necessity for in some way heating the Museum during the winter months. During this season the temperature within the buildings is constantly so far below that of the outer air that it is impossible for visitors or the staff to remain in the rooms without great discomfort for any length of time, or without catching cold. Besides this consideration, the specimens in many cases are suffering from the humid atmosphere which constantly prevails inside.

The exhibits lent to the executive of the Dunedin and South Seas Exhibition have nearly all been safely returned to the museum.

Several cases of larceny occurred during the year, but only in one case was the offender secured; a conviction was obtained, and since then there have been no further acts of theft.

Throughout the year, and, as was to be expected, especially during the continuance of the Dunedin and South Seas Exhibition, visitors to the museum from America, Australia, and especially Europe were largely in excess of last year. Many of these were scientific men who were attracted by the fame of its collections, principally those of the birds, of the fossils, and of the

College, Buildings Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Transfer of cost of new wing to College Maintenance Account	731	19 10	By Balance, 1st Jan., 1889	9,731	19 10
Transfer of loan from New Zealand Trust and Loan Company	9,000	0 0			
	<u>£9,731</u>	<u>19 10</u>			

Boys' High School, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To School fees	892	12 0	By Balance, 1st Jan., 1889	463	17 10
Rent of reserves	2,984	4 0	Salaries (includes £90, contribution to School of Art, for instruction in drawing)	2,487	10 0
Interest on current account	48	15 2	Insurance	21	0 0
Balance	189	19 5	Rates	74	0 0
			Rent of playground	9	0 0
			Contribution towards expenses of Registrar's office	80	0 0
			Incidentals	282	13 11
			Examiners' fees	54	1 6
			Inspecting reserves and advertising	145	18 2
			Interest on loan	350	0 0
			Annual expense of workshop	25	15 0
			Alterations to workshop	37	7 6
			Solicitors' fees	20	8 6
			Survey of Reserve 1201	36	19 4
			New well for bath, &c.	26	18 10
	<u>£4,115</u>	<u>10 7</u>		<u>£4,115</u>	<u>10 7</u>
			By Balance, 1st Jan., 1890	189	19 5

Boys' High School, Buildings Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To New Zealand Trust and Loan Company, transfer of loan	5,000	0 0	By Balance, 1st Jan., 1889	4,615	3 9
	<u>£5,000</u>	<u>0 0</u>	Balance, 31st Dec., 1889	384	16 3
				<u>£5,000</u>	<u>0 0</u>
To Balance, 1st Jan., 1890	£384	16 3			

Boys' High School, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Sale of 1 acre out of Reserve 954	5	0 0	By Balance	5	0 0
To Balance, 1st Jan., 1890	£5	0 0			

Girls' High School, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	667	16 0	By Salaries	1,661	6 0
Interest on capital	216	10 7	Contribution to Registrar's office expenses	70	0 0
Rent of reserves	371	9 6	Insurance	14	16 4
Interest on investment	54	0 0	Contribution to gymnasium	12	10 0
School fees	1,737	4 6	Rent of section, Cranmer Square	54	0 0
Boys' High School, Maintenance Account, refund of amount charged in error	10	19 0	Rates	34	13 9
Girls' High School, Capital Account, refund of amount charged in error	3	1 8	Examiners' fees	54	1 6
Interest on current account	23	14 4	Incidentals	194	2 9
			Solicitors' fees	2	12 8
			Exhibitions and scholarships	223	0 0
			Inspecting reserves	5	16 0
			Inspecting reserves, amount charged in error	10	19 0
			Cost of sale of Saxton's land, amount charged in error	3	1 8
			Balance	738	15 11
	<u>£3,084</u>	<u>15 7</u>		<u>£3,084</u>	<u>15 7</u>
To Balance, 1st Jan., 1890	£738	15 11			

Girls' High School, Investment Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Rent of quarter-acre section, Cranmer Square	54	0 0	By Balance, 1st Jan., 1889	900	0 0
Balance	900	0 0	Interest	54	0 0
	<u>£954</u>	<u>0 0</u>		<u>£954</u>	<u>0 0</u>
			By Balance, 1st Jan., 1890	£900	0 0

Girls' High School, Capital Account.

<i>Receipts.</i>		£	s.	d.	<i>Expenditure.</i>		£	s.	d.
To Balance, 1st Jan., 1889	..	4,834	6	8	By Share of expenses in connection with sale of Saxton's land	..	12	10	7
					Share of expenses in connection with Neill's land	..	0	10	3
					Share of cost of insurance of dwelling on Saxton's estate	..	0	7	10
					Share of rates on Saxton's estate	..	4	2	3
					Share of cost of inspecting properties mortgaged to the college	..	1	0	1
					Share of legal expenses for 1888	..	1	2	6
					Balance	..	4,814	13	2
		<u>£4,834</u>	<u>6</u>	<u>8</u>			<u>£4,834</u>	<u>6</u>	<u>8</u>
To Balance, 1st Jan., 1890	..	£4,814	13	2					

School of Agriculture, Maintenance Account.

<i>Receipts.</i>		£	s.	d.	<i>Expenditure.</i>		£	s.	d.
To Rent of reserves	..	1,650	16	11	By Balance, 1st Jan., 1889	..	2,461	18	2
Interest on capital	..	2,925	11	4	Salaries	..	1,278	18	8
Rent of land	..	5	0	0	Contribution towards expenses of Registrar's office	..	125	0	0
Sale of live-stock, bacon, and wool	..	468	7	6	Boarding students and staff, and mending	..	1,137	14	0
Sale of grain	..	547	12	0	Students' travelling expenses	..	51	10	0
Sale of dairy-produce	..	96	16	3	Insurance	..	99	10	2
Sale of books, &c., to students	..	2	15	7	Fuel	..	33	16	2
Students' fees	..	962	10	0	Light	..	33	6	6
Sale of implements	..	7	10	0	Laboratory, renewals, &c.	..	46	13	1
Refund from Government for farm labour	..	10	4	0	Library and museum	..	11	18	2
License fees (pastoral reserves)	..	2	2	0	Printing and advertising	..	46	11	4
Cost of sale of Saxton's land, refund from capital account	..	41	11	6	Stationery and stamps	..	25	16	7
Rent of reserves paid in error by Receiver of Land Revenue	..	451	4	5	Repairs to buildings, renewals of furniture	..	126	2	4
Balance	..	3,229	13	2	Labour at drains, ditches, &c.	..	2	0	0
					Prizes and certificates	..	21	8	0
					Examiners' fees	..	31	10	0
					Books and instruments for sale to students	..	53	6	10
					Petty cash and accounts paid by Registrar	..	14	11	11
					Contingencies	..	13	3	1
					Farm labour, including dairy	..	771	4	0
					Students' labour	..	95	2	7
					Manures	..	66	14	0
					Seed purchased	..	76	9	10
					Implements	..	108	12	8
					Fuel (farm)	..	25	18	7
					Rates	..	23	15	4
					Insurance (farm)	..	39	10	9
					Trade accounts and freight	..	186	0	5
					Live-stock (purchases)	..	221	2	0
					Labour in orchard and plantations	..	32	0	5
					Material	..	68	4	0
					Interest on loan, £28,000	..	1,960	0	0
					Interest on current account	..	203	11	2
					Solicitor's fees	..	2	15	0
					Engine and separator	..	127	10	0
					Shafting and fittings for ditto	..	35	1	7
					Furniture, &c., taken over by Board	..	206	0	0
					Furniture, &c., taken over by housekeepers	..	30	4	6
					Reletting pastoral reserves, cost of	..	14	6	11
					Share of cost of sale of Saxton's land, wrongly charged	..	41	11	6
					Refund of rent paid in error by Receiver of Land Revenue	..	451	4	5
		<u>£10,401</u>	<u>14</u>	<u>8</u>			<u>£10,401</u>	<u>14</u>	<u>8</u>
					By Balance, 1st Jan., 1890	..	£3,229	13	2

School of Agriculture, Buildings and Fittings Account.

<i>Receipts.</i>		£	s.	d.	<i>Expenditure.</i>		£	s.	d.
To New Zealand Trust and Loan Company, transfer of loan	..	28,000	0	0	By Balance, 1st Jan., 1889	..	28,089	2	2
Balance	..	89	2	2					
		<u>£28,089</u>	<u>2</u>	<u>2</u>			<u>£28,089</u>	<u>2</u>	<u>2</u>
					By Balance, 1st Jan., 1890	..	£89	2	2

School of Agriculture, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	52,981	15 8	By Share of expenses in connection with sale of Saxton's estate	156	0 4
Proceeds from sale of land out of Reserve 1874	215	7 6	Share of expenses in connection with sale of Neill's estate	6	18 7
			Share of cost of insurance of dwelling on Saxton's estate	5	4 10
			Share of rates on Saxton's estate	55	8 6
			Share of cost of inspecting properties mortgaged to college	13	16 3
			Share of legal expenses for 1888	15	3 5
			Balance	52,894	11 3
				<u>52,894</u>	<u>11 3</u>
				<u>53,147</u>	<u>3 2</u>
To Balance, 1st Jan., 1890	52,894	11 3			

Museum, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
1889.			By Balance, 1st January, 1889	549	8 10
To Rent of reserves	3,276	13 8	Salaries	820	11 1
Interest on capital	1,080	1 3	Insurance	87	2 9
License fees (pastoral reserves)	2	2 0	Interest on loan	140	0 0
Museum, Buildings Account, transfer of balance	0	10 6	Incidentals and exchanges	196	0 0
			Contribution to expenses of Registrar's office	50	0 0
			Contributions from Library, Museum, and School of Technical Science Endowment Fund,—		
			To Library	600	0 0
			To School of Art	550	0 0
			Repairs to fence	35	9 0
			Repairs to skylight	85	6 0
			Repairs and fitting up Curator's room	14	18 9
			Clearing grounds	11	16 6
			Repairs, new skylight, Taxidermist's room	27	0 6
			Proceedings of Geological Society	40	0 0
			Portrait of late George Gould	21	0 0
			Architect's fee (Haast memorial tablet)	3	3 0
			Reletting pastoral reserves	22	18 7
			Interest	75	6 11
			Balance	1,029	5 6
				<u>1,029</u>	<u>5 6</u>
				<u>4,359</u>	<u>7 5</u>
To Balance, 1st January, 1890	1,029	5 6			

Museum, Buildings Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To New Zealand Trust and Loan Company, transfer of loan	2,000	0 0	By Balance, 1st Jan., 1889	1,999	9 6
			Balance transferred to Museum, Maintenance Account	0	10 6
				<u>0</u>	<u>10 6</u>
				<u>2,000</u>	<u>0 0</u>
				<u>2,000</u>	<u>0 0</u>

School of Art, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Students' fees	252	15 0	By Balance, 1st Jan., 1889	133	13 8
Grant from Museum, Library, and School of Technical Science Endowment Fund	550	0 0	Salaries	700	0 0
Grant from Boys' High School	90	0 0	Insurance	13	0 6
Contribution from Board of Education	40	0 0	Rates	34	13 9
Balance	120	2 0	Incidentals	89	7 3
			Contribution to Registrar's office expenses	30	0 0
			Gas	38	2 0
			Repairs	7	12 0
			Interest on current account	6	7 10
				<u>1,052</u>	<u>17 0</u>
				<u>1,052</u>	<u>17 0</u>
			By Balance, 1st Jan., 1890	120	2 0

Circulating Library, Maintenance Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Contribution from Library, Museum, and School of Technical Science Endowment Fund	600	0 0	By Balance, 1st Jan., 1889	787	15 4
Subscriptions	570	11 6	Salaries	288	11 8
Fines	15	5 5	Contribution towards expenses of Registrar's office	20	0 0
Detention fees	3	9 0	Insurance	44	18 6
Sale of catalogues	11	6 8	Rates	34	13 9
Sale of magazines	6	5 1	Gas	94	6 6
Sale of waste paper	2	12 4	Fuel	22	2 0
Philosophical Institute, rent of room	5	5 0	New books (circulating library)	195	9 6
Medical Society, rent of room	3	3 0	Renewal of standard works	30	3 0
Public Library Scrip of Shareholders' Account, balance	113	10 2	Books, binding, &c. (reference library)	79	17 1
Balance	641	19 11	Periodicals and English papers	61	6 1
			Colonial papers	30	14 0
			Sundries	104	1 7
			New desk and alterations	15	0 0
			Repairs	16	13 6
			Solicitors' fees	3	18 2
			New catalogue	63	0 0
			New boiler, pipes, &c. (heating apparatus)	41	15 2
			Interest	39	2 3
	<u>£1,973</u>	<u>8 1</u>		<u>£1,973</u>	<u>8 1</u>
			By Balance, 1st Jan., 1890	£641	19 11

Public Library, Scrip of Shareholders Account.

<i>Revenue.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	£113	10 2	By Circulating Library, Maintenance Account, transfer of balance	£113	10 2

Superior Education, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	2,767	10 8	By Share of expenses in connection with sale of Saxton's land	9	3 1
			Share of expenses in connection with sale of Neill's land	0	8 2
			Share of cost of insurance of dwelling on Saxton's estate	0	6 1
			Share of rates on Saxton's estate	3	5 1
			Share of cost of inspecting properties mortgaged to the college	0	16 2
			Share of legal expenses for 1888	0	17 10
			Balance	2,752	14 3
	<u>£2,767</u>	<u>10 8</u>		<u>£2,767</u>	<u>10 8</u>
To Balance, 1st Jan., 1890	£2,752	14 3			

Classical School, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	344	9 3	By Balance	344	9 3
To Balance, 1st Jan., 1890	344	9 3			

School of Technical Science, Capital Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	19,636	0 0	By Share of expenses in connection with sale of Saxton's estate	56	16 11
			Share of expenses in connection with Neill's estate	2	11 4
			Share of cost of insurance on dwelling, Saxton's estate	1	18 9
			Share of rates on Saxton's estate	20	10 10
			Share of cost of inspecting properties mortgaged to college	5	2 2
			Share of legal expenses for 1888	5	12 6
			Balance	19,543	7 6
	<u>£19,636</u>	<u>0 0</u>		<u>£19,636</u>	<u>0 0</u>
To Balance, 1st Jan., 1889	19,543	7 6			

Medical School, Reserves Account.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance, 1st Jan., 1889	1,450	3 7	By Inspection of reserves	2	2 3
Rent of reserves	392	1 10	Balance	1,936	9 2
Interest	96	6 0			
	<u>£1,938</u>	<u>11 5</u>		<u>£1,938</u>	<u>11 5</u>
To Balance, 1st Jan., 1890	£1,936	9 2			

New Zealand Trust and Loan Company, Loan Account.

Receipts.		£	s.	d.	Expenditure.		£	s.	d.
To Balance, 1st Jan., 1889	..	44,000	0	0	By Transfer to—				
					School of Agriculture Buildings Account	..	28,000	0	0
					Boys' High School..	..	5,000	0	0
					College ..	..	9,000	0	0
					Museum ..	..	2,000	0	0
		<u>£44,000</u>	<u>0</u>	<u>0</u>			<u>£44,000</u>	<u>0</u>	<u>0</u>

Mortgage of Freeholds.

		£	s.	d.			£	s.	d.
To S. Forsyth, repayment	..	200	0	0	By Balance, 1st Jan., 1889	..	67,300	0	0
Balance ..	..	67,100	0	0					
		<u>£67,300</u>	<u>0</u>	<u>0</u>			<u>£67,300</u>	<u>0</u>	<u>0</u>
					By Balance, 1st Jan., 1890	..	£67,100	0	0

Mortgage of Debentures.

		£	s.	d.			£	s.	d.
To Balance ..	..	300	0	0	By Balance, 1st Jan., 1889	..	300	0	0
		<u>300</u>	<u>0</u>	<u>0</u>	By Balance, 1st Jan., 1890	..	£300	0	0

Contractors' Deposit Account.

		£	s.	d.			£	s.	d.
To Deposit on water-supply contract, 14th June, 1889	..	10	0	0	By Refund of deposit, 4th August, 1889	..	10	0	0
		<u>10</u>	<u>0</u>	<u>0</u>			<u>10</u>	<u>0</u>	<u>0</u>

STATEMENT OF BALANCES.

Accounts.

CR.		£	s.	d.
School of Agriculture, Capital Account	..	£52,894	11	3
Boys' High School, Buildings Account	..	384	16	3
Boys' High School, Capital Account	..	5	0	0
Classical School, Capital Account	..	344	9	3
Superior Education, Capital Account	..	2,752	14	3
College Maintenance Account	..	1,533	4	7
Girls' High School, Capital Account	..	4,814	13	2
Girls' High School, Maintenance Account	..	788	15	11
Medical School Reserves Account	..	1,936	9	2
Museum Maintenance Account	..	1,029	5	6
School of Technical Science, Capital Account	..	19,543	7	6
				85,977 6 10
DR.				
School of Agriculture, Buildings Account	..	89	2	2
School of Agriculture, Maintenance Account	..	3,229	13	2
School of Art, Maintenance Account	..	120	2	0
Boys' High School, Maintenance Account	..	189	19	5
Public Library, Maintenance Account	..	641	19	11
				4,270 16 8
				<u>£81,706 10 2</u>

Bank and Investments.

CR.		£	s.	d.
Drawing Account ..	..	£645	8	8
Less outstanding cheques	..	27	2	11
				618 5 9
Fixed deposits	..			12,788 4 5
Mortgages on freeholds	..			67,100 0 0
Mortgages on debentures	..			300 0 0
Girls' High School, Investment Account	..			900 0 0
				<u>£81,706 10 2</u>

Liabilities.

New Zealand Trust and Loan Company	..	44,000	0	0
Public Library, scrip of shareholders	..	113	10	2
		<u>£44,113</u>	<u>10</u>	<u>2</u>

Examined and found correct.

JAMES EDWARD FITZGERALD,
Controller and Auditor-General.

[Approximate Cost of Paper.—Preparation, nil; printing (1,350 copies), £11 10s.]