

1901.
NEW ZEALAND.

EDUCATION: THE UNIVERSITY OF OTAGO.

(“THE UNIVERSITY OF OTAGO ORDINANCE, 1869.”)

[In continuation of E.-7, 1900.]

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

Visitor.—His Excellency the Governor.

Council.

Appointed by His Excellency the Governor in Council—His Honour Mr. Justice Williams, M.A., LL.M. (Chancellor); E. B. Cargill (Vice-Chancellor); R. Burns, F.R.C.S.; T. M. Hocken, M.R.C.S.; G. G. Russell; J. Allen, B.A., M.H.R.; H. Clark, J.P.

Elected by graduates—D. White, M.A.; Rev. A. Cameron, B.A.; T. K. Sidey, B.A.

Elected by the professors—Professor G. S. Sale, M.A.; Professor J. Shand, M.A., LL.D.

Professors.

Classics, G. S. Sale, M.A.; Natural Philosophy, J. Shand, M.A., LL.D.; Chemistry, J. G. Black, M.A., D.Sc.; Anatomy and Physiology, J. H. Scott, M.D., M.R.C.S.; Mining and Mine and Land Surveying and Director of the School of Mines, James Park, F.G.S.; Biology (also Curator of the University Museum), W. B. Benham, D.Sc. Lond.; Mental and Moral Philosophy, Rev. W. Salmond, M.A., D.D.; Mathematics (also Lecturer on Political Economy), F. B. de M. Gibbons, M.A.; English Language and Literature, T. Gilray, M.A.

Lecturers.

Jurisprudence, W. D. Milne, M.A., LL.B.; French, A. Dallas; German, G. P. Howell, M.A.; Constitutional History and Law, A. R. Barclay, B.A., LL.B.; Practice of Medicine, D. Colquhoun, M.D., M.R.C.P., M.R.C.S.; Medical Jurisprudence and Public Health, F. Ogston, M.D., C.M.; Midwifery and Diseases of Women, F. C. Batchelor, M.D., M.R.C.S., L.R.C.P.; Materia Medica, J. Maedonald, L.R.C.P., L.R.C.S.; Pathology, W. S. Roberts, M.R.C.S.; Ophthalmology, H. L. Ferguson, M.A., M.D., &c.; Surgery, L. E. Barnett, M.B., C.M., F.R.C.S.; Mental Diseases, F. T. King, M.B., C.M., B.Sc.; Clinical Medicine and Clinical Surgery, the Honorary Medical and Surgical Staff of the Dunedin Hospital; Metallurgy and Assaying, D. B. Waters, A.O.S.M.; Geology and Mineralogy, P. Marshall, D.Sc., N.Z.

Registrar—A. Hamilton.

The CHANCELLOR of the University of Otago to His Excellency the Governor.

YOUR EXCELLENCY,—

University of Otago, Dunedin, 1901.

In compliance with the provisions of “The University of Otago Ordinance, 1869,” I have the honour to forward to your Excellency the following report of the proceedings of the University of Otago for the year ending 31st March, 1901:—

The attendance at the classes for the past twelve months is as follows:—

				Matriculated.	Not Matriculated.	Total.
Males	...	...	...	164	39	203
Females	...	...	...	53	1	54
Total	...	...	...	...	...	257

The degrees obtained by the students at the examination held by the New Zealand University are as follows: Master of Arts, 9; Bachelor of Arts, 17; Bachelor of Science, 6.

The Tinline Scholarship and four Senior Scholarships were awarded to students of the College.

Endowments.—During the year an agreement has been made to lease the portion of the Forest Hill Reserve not occupied by mining leases. The lease of Run 79C, a small portion cut off from the Barewood Run at the last sale of leases, has been transferred. The Castle Street Reserve has had the retaining-wall severely tried by two floods in the Leith, but, beyond exposing a portion of the foundation at one place for about 40 ft., no damage has been done. It will be necessary, however, to take steps to prevent damage by any subsequent floods at the exposed portion. One section has been leased on this reserve, and a house has now been built on it. Several applications have been made for adjoining sections. On Forest Hill Run several leases of mining claims have been issued, but up to the present nothing has been done on these dredging claims, and there does not seem to be much prospect of any return in the way of royalty. On Barewood Run the

quartz-mining has almost entirely stopped, and a very serious falling-off in the revenue from licenses is the result.

School of Mines.—The University, and the School of Mines in particular, suffered a great loss in the early part of the year by the death of the Director, Professor G. H. Ulrich. On the receipt of the news of his death the Council passed the following resolution: "That the Council desires to express its deep regret at the death of Professor G. H. Ulrich, F.G.S., who has held the position of Director of the Otago School of Mines and the chair of Mineralogy and Mining since the year 1878. By his faithful devotion to his work and by his conspicuous ability the late professor raised the reputation of the School of Mines to the present high level, and the Council feel that the loss they have now sustained will be felt not only by his colleagues and the University generally, but by the colony and by all those interested in the development of the mineral resources of New Zealand, in which the late professor, as shown by his scientific papers and original work, took such a keen and lively interest."

Temporary arrangements for the carrying on of the work of the school had to be made. Mr. D. B. Waters acted as Director, and Messrs. Russell and Watt carried on the classes in mining and mineralogy, and discharged their duties in a very satisfactory manner. After careful consideration it was resolved to redistribute the teaching of the various subjects of the curriculum, and it was considered desirable to terminate the appointments of the lecturers on surveying, on applied mechanics, and on geology, and to have these subjects taught by a professor or lecturer who should give his whole time to his work. Subsequently it was decided that private practice in the vacation would be allowed to those appointed. The Council then advertised in England and the colonies for a professor of mining, who should be Director of the School of Mines, at a salary of £500 a year, and for a lecturer on geology and petrology at a salary of £300 a year. Each appointment was for a term of three years. A number of applications were received, and, after a careful examination of the qualifications of the applicants, Mr. James Park, F.G.S., was appointed Director and professor of mining and mine- and land-surveying, and Mr. Patrick Marshall, D.Sc., N.Z., lecturer on geology and petrology. Mr. Park brought with him from the Thames a large number of very useful examples of mining machinery, including a working shaft-cage and rockdrill, tools, &c.—a valuable addition to the teaching facilities already provided.

A report from the Acting-Director, Mr. D. B. Waters, on the work of the school for the year is appended. At the close of the session several diplomas and certificates were granted by the Council to successful students.

Staff.—In addition to the loss of Professor Ulrich by death, the new arrangements, as previously stated, have necessitated the retirement of the lecturer on land- and mine-surveying, Mr. Begg; the lecturer on applied mechanics, Mr. Cutten; and Dr. J. R. Don, the lecturer on geology, all of whom are entitled to the thanks of the Council for their faithful services. Later on in the year, at the close of the summer session, Dr. John Macdonald was compelled by ill-health to resign his position as lecturer on *materia medica*, which he has held for eighteen years. The Council much regret the loss of his teaching.

Scholarships have been awarded as follows: The Sir George Grey Scholarship of £50, offered by Parliament for a science subject; the Macandrew Scholarship on Political Economy; the Grey-Russell Scholarship; and the Women's Scholarship.

Investments.—Various fixed deposits, hitherto in the Bank of New Zealand, have been invested in the debentures of the Dunedin Stock Exchange Proprietary Company (Limited), and now earn 5 per cent. interest. The amount of the various trust funds thus invested is £4,500.

To assist the Hospital Trustees in the erection of a new *post-mortem* room at the Hospital the Council made a grant of £100, which was supplemented by a further £20 subscribed by those of the honorary medical staff who are lecturers at the University.

Law.—The Committee appointed to consider the question of the Law School have submitted several reports, and the Council have to thank the Council of the Law Society for voting a sum of £50, which would have been available towards the payment of further lecturers if the scheme proposed by the Committee could have been carried out.

Finance.—The position of the University in the matter of finance is very unsatisfactory. For some years the revenue derived from the various endowments of the University has been declining owing to the universal drop in the value of pastoral lands. In the case of one endowment (Barewood) the rental has declined from £2,970 by various drops to £900 per annum. For a few years this was supplemented by a certain amount of revenue from some mining claims on the property, but this has now come to an end. The annual revenue from the other endowments has also largely decreased, though not in so great a proportion; but it is not possible to say if present rents will be maintained on the expiry of the present leases. The only increase in revenue that can be looked for is from the letting of the Castle Street building sections, and this cannot be taken into account for some time to come. On the whole the revenue available for all purposes does not reach the estimate of the expenditure by about £500. Every endeavour has been made by the Council to curtail the expenditure, but for some years it has been found impossible to make any material reduction on the various items of ordinary expenditure.

The Council is fully aware that the whole of the University Buildings require painting, as this has not been done for more than ten years; the grounds require the expenditure of a small amount to keep them in better order. No funds can be found for any additions to the library, and a sum of £300 is required for the completion of the fittings of the library to provide proper accommodation for the Transactions and other serial literature. A recent report by a select committee on the Medical School shows that to make this important faculty of the University as complete and effective as it should be an expenditure would be required which is at the present time quite beyond the means of the Council.

During the current year the Council will have to seriously consider the financial position and

lay the result of its investigation before Parliament. During the last ten years the expenses of the Museum have been £500 more than the revenue received from the Museum Endowment, and about £200 was spent out of general funds on the retaining-wall, in addition to the £1,000 borrowed for that specific purpose.

JOSHUA STRANGE WILLIAMS, Chancellor.

REPORT OF THE CURATOR OF THE OTAGO UNIVERSITY MUSEUM.

During the past year 1900 a considerable amount of work has been carried out in the Museum, in the remounting of specimens, both osteological and alcoholic, in relabelling the specimens, and in the addition of new specimens, some of these being specimens of species hitherto unrepresented in the collection; others—viz., local species—being new to science, and others again being better specimens required to replace imperfect or deteriorated exhibits.

Additions to the Collection.—(A.) Local fauna: A plaster cast of the baby fin whale acquired by me last year; the skeleton of the fore and hind limbs of a young elephant seal (*Macrorhinus coninus*), brought up from the Macquarries to supplement our skeleton of an adult, in which the limb bones are incomplete; a stuffed specimen of the spiny shark (*Acanthras vulgaris*); a fine individual of the gigantic spider crab (*Prionorhynchus edwardsii*) caught off the Otago coast, and hitherto known only from the Auckland and the Campbell Islands; a large and handsome Ophiurid (*Ophiocreas constrictor*) from Dusky Sound, type of a new species, and the first representative in New Zealand of the genus; a complete skeleton of the elephant fish (*Callo-rhynchus*), as well as skulls of some other sharks. In addition to these, a number of invertebrates have been added, most important being a series of local starfishes (dried) which had been sent to England in 1893 to a specialist for identification.

(b.) General collection.—A fine specimen of the Australian lung fish (*ceratodus*); a chameleon (*C. diligris*) collected in the contingent's camp at Beira (E. Africa); a fine and perfect skeleton of a dog; a number of Invertebrata in alcohol, including *Lingula*, a lampshell now surviving in the ocean, which first appeared in the Cambrian rocks.

The most numerous additions have been to the palæontological series, required for teaching purposes and for exhibition—viz., a plaster cast of a toothed bird (Odontoptery); a dragon fly; a peculiar bivalve mollusc (*Hipparites*); specimens of Trilobites, of Crinoids (six), Cystids (four), Blastids, and corals. Further, I have set up a series of thirty-seven preparations (chiefly butterflies) to illustrate the uses of colour in nature. (Protective resemblance, mimicry, and warning colouration.

Remounts.—About eighty specimens of local fauna and several of the foreign specimens have been remounted in more suitable jars. Several of the skeletons on exhibition have been taken to pieces, cleaned, and remounted. The horse, cow, tiger, llama have thus been treated, and gradually the entire series—where necessary—will be similarly dealt with. Further, the skeletons of a large lizard and of an alligator (previously mounted with each bone on a separate support, and thus very liable to be lost) have been mounted in a more compact manner; and, while still allowing the removal and examination by students of the essential parts, yet present, when exhibited to the public, the appearance of entire skeletons.

The series of sterna and some other parts of the moas have now been mounted, each on its own table and labelled, to harmonize with the set of valuable and instructive moa relics mounted by the late Curator.

I have entered into negotiations for exchange with two or three Curators of foreign museums, but have not yet been able to effect any exchanges of importance. From Professor Weldon, of Oxford, however, I received, in addition to some invertebrata, a series of beautiful microscopic sections illustrating the development of the chick, and invaluable for teaching purposes.

During the year the Museum has been visited by a very large number of people, as many as five hundred or more being not unusual on a Sunday or holiday.

W. B. BENHAM, Professor and Curator.

REPORT ON THE MEDICAL SCHOOL.

I am pleased to be able to report that the much-needed *post-mortem* room at the hospital has at last been built, and is now in use. The money required for its erection was contributed by the trustees of the hospital, the University Council, and certain members of the teaching-staff of the Medical School.

The number of students attending the school during the present session is seventy-three. Of these sixteen have passed their first and sixteen their second professional examination. Eight of last year's undergraduates passed their final examination in January, and have received the degrees of Bachelor of Medicine and Bachelor of Surgery from the University of New Zealand. The junior house surgencies in the Dunedin, Christchurch, and Auckland Hospitals are now held by three of these graduates. Two others have gone to London for further study, while three are in private practice in this country.

It may be of interest to note that since the foundation of the school fifty-six students have gone through the whole of their course here, and have taken the degree of Medicine of the New Zealand University. Of these forty-seven are now in practice in the colony. Ninety students, after a partial course here, have completed their studies in Great Britain, and have taken some British qualifications. Many of these have returned to New Zealand, and there are 105 medical practitioners in this country who have received their education, either completely or partially, at this school. The total number of students, both past and present, is 321.

Dr. John Macdonald, who has held the post of lecturer on *materia medica* since the school was founded, has found it necessary, owing to ill-health, to resign his lectureship. His successor has not yet been appointed.

JOHN H. SCOTT,
Dean of the Medical School.

REPORT OF THE SCHOOL OF MINES.

I submit the following report on the work of the School of Mines during the session of 1900.

Attendance.—The total number of students in attendance was fifty-nine, made up as follows: Forty-six were regular students taking full session's work; the other thirteen were only taking special classes, and of these latter seven were attending an evening class in assaying. Out of the forty-six students in full attendance ten entered the school for the first time, the remainder being students of one, two, or three years' standing.

The following table will show the attendance at the various classes, and also the results of the annual examinations:—

Subjects.	Attendance.	Results of Examinations.			
		1st Class.	2nd Class.	3rd Class.	Failures.
University Classes—					
Mathematics	9	1	3	5	...
Theoretical mechanics	8	...	1	7	...
Theoretical physics	7	...	2	5	...
Practical physics	9	1	5	3	...
Theoretical chemistry	14	4	4	6	...
Practical chemistry	10	5	3	2	...
School of Mines Classes—					
Mining, first course	13	9	3	1	...
Mining geology	12	3	6	3	...
General geology	13	7	3	3	...
Mineralogy	8	2	2	5	1
Petrography	11	...	6	5	...
Chemical analysis	18	7	8	3	...
Metallurgy, first course	13	4	4	5	...
Metallurgy, second course... ..	13	2	3	3	5
Assaying, first course	9	5	1	3	...
Assaying, second course	15	4	4	7	...
Blowpipe analysis	7	3	1	2	1
Surveying, first course	7	2	...	5	...
Surveying, second course	11	11	...	...	...
Applied mechanics	14	3	6	5	...
Palæontology	2	2	...	...	...
Model-drawing	11	3	6	2	...
Plane geometry	12	5	2	5	...
Solid geometry	9	3	4	2	...
Machine-drawing	5	2	1	2	...

The attendance at all the classes in the School of Mines building was very satisfactory.

New Associates, &c.—With the close of this session a large number of students have completed the full course, seventeen students having passed all the examinations entitling them to receive one or more of the diplomas or final certificates granted by the University. All the conditions having been fulfilled, diplomas or final certificates have been granted as follows:—Associateship in mining, 13; associateship in metallurgy, 1; certificate of metallurgical chemist and assayer, 17; certificate of land and mine surveyor, 1.

Work of the School.—Owing to the death of the late Director of the school, Professor G. H. F. Ulrich, the end of the present session will mark a distinctive point in the history of the School of Mines. It might be as well therefore to place on record a very brief outline of the work and results attained since the inception of the school, when Professor Ulrich was appointed in 1877. Though Professor Ulrich was appointed in 1877, and a curriculum of work drawn up, it was not carried out in its entirety for some years. The more important subjects were carried on by Professors Ulrich and Black, and in 1887 the full course was provided for, by the appointments of Messrs. L. O. Beal, W. Cutten, and G. J. Binns, as lecturers on surveying, applied mechanics, and general geology respectively. In 1891 the staff of the school was again enlarged by the appointment of a permanent lecturer on assaying and metallurgy—Mr. D. Wilkinson, A.R.S.M., taking over these subjects from Professor Black, a new building having in the meantime been erected for the increased requirements of the school. The attendance at the Mining School was small for some years, and up to 1889 only five students had gone through a full course, entitling them to a diploma or a final certificate. In that year, however, the number of students increased considerably, the total number in regular attendance being twelve. Since then the numbers have gone on increasing, and for the last two years the number of regular students has been forty-three and forty-six respectively. In regard to results, the number of diplomas and final certificates granted to date is as follows: Associateship—Mining division, 45; metallurgical division, 14; geology division, 10. Certificate—Chemist and assayer, 50; land and mine surveyor, 14. The actual number of individual students who have passed through the school, and obtained either a diploma or a final certificate, is sixty-

SIR WALTER SCOTT SCHOLARSHIP ACCOUNT.

	£	s.	d.	Expenditure—	£	s.	d.
Balance	287	8	5	Holder	5	0	0
Interest on fixed deposit	8	11	0	Bank charge	0	10	0
Interest on debentures	5	14	0	Balance	296	3	5
	<u>£301</u>	<u>13</u>	<u>5</u>		<u>£301</u>	<u>13</u>	<u>5</u>

TAIERI SCHOLARSHIP ACCOUNT.

	£	s.	d.	Expenditure—	£	s.	d.
Balance	275	12	9	Discount on fixed deposit	0	17	6
Interest on fixed deposit	5	18	9	Balance	286	0	8
Interest on debentures	5	7	0		<u>£286</u>	<u>18</u>	<u>2</u>
	<u>£286</u>	<u>18</u>	<u>2</u>		<u>£286</u>	<u>18</u>	<u>2</u>

MACANDREW SCHOLARSHIP ACCOUNT.

	£	s.	d.	Expenditure—	£	s.	d.
Balance	761	17	4	Bank charge	0	10	0
Interest on fixed deposit	19	17	9	Discount on fixed deposit	6	18	6
Interest on debentures	14	0	1	Balance	788	6	8
	<u>£795</u>	<u>15</u>	<u>2</u>		<u>£795</u>	<u>15</u>	<u>2</u>

WOMEN'S SCHOLARSHIP ACCOUNT.

	£	s.	d.	Expenditure—	£	s.	d.
Balance	555	13	2	Bank charge	0	10	0
Interest on fixed deposits	8	13	5	Bank interest	0	0	9
Interest on fixed deposit	7	19	7	Discount on fixed deposit	0	15	0
Interest on debentures	11	2	0	Balance	582	2	5
	<u>£583</u>	<u>8</u>	<u>2</u>		<u>£583</u>	<u>8</u>	<u>2</u>

MACGREGOR PRIZE FUND ACCOUNT.

	£	s.	d.	Expenditure—	£	s.	d.
Balance	118	14	1	Bank charge	0	10	0
Interest on fixed deposit	3	0	0	Discount on fixed deposit	0	5	9
Interest on debentures	2	0	0	Balance	122	18	4
	<u>£123</u>	<u>14</u>	<u>1</u>		<u>£123</u>	<u>14</u>	<u>1</u>

STUART PRIZE FUND ACCOUNT.

	£	s.	d.	Balance—Dunedin Savings Bank	£	s.	d.
Balance	100	3	4		103	3	4
Interest on deposit	3	0	0		<u>£103</u>	<u>3</u>	<u>4</u>
	<u>£103</u>	<u>3</u>	<u>4</u>		<u>£103</u>	<u>3</u>	<u>4</u>

ULRICH MEMORIAL PRIZE FUND ACCOUNT.

	£	s.	d.	Balance	£	s.	d.
Subscriptions	71	3	0		71	3	0
	<u>£71</u>	<u>3</u>	<u>0</u>		<u>£71</u>	<u>3</u>	<u>0</u>

PARK PRIZE FUND ACCOUNT.

	£	s.	d.	Balance	£	s.	d.
Subscriptions	49	12	0		49	12	0
	<u>£49</u>	<u>12</u>	<u>0</u>		<u>£49</u>	<u>12</u>	<u>0</u>

INTEREST ACCOUNT.—No. 3 Loan: Building Purposes, £15,000, at 4½ per cent., and £1,000 for Reclamation Purposes.

	£	s.	d.	Interest paid on £16,000	£	s.	d.
From General Account	711	0	0		711	0	0
	<u>£711</u>	<u>0</u>	<u>0</u>		<u>£711</u>	<u>0</u>	<u>0</u>

A. HAMILTON, Registrar.

Examined and found correct,
J. K. WARBURTON,
Controller and Auditor-General.

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