

that the University has Faculties of Law, Medicine and Applied Science, six Affiliated Colleges and a Normal School, as well as connections more or less direct with nearly the whole of the active educational work of the Dominion. It thus happens that with about 300 students and an income adequate to one moderate college, McGill yet finds itself doing work that is spread over all the departments which belong to the greatest universities. It may be that much is imperfectly done, that time and effort are wasted in hurrying from one field of labor to another as exigency demands, that constant watchfulness is needed to prevent some agency from breaking down; and finally, that in working for the future it is often necessary to appear to be attending to one interest at the expense of another, and that in spite of all efforts the College may have temporarily to abandon some promising position which has become untenable, but upon which, nevertheless, it must continue to have a watchful eye, and be ready to reoccupy when circumstances permit. The whole educational history of McGill is thus like a hard fought battle, in which, with a too slender force, its supporters have been defending or attacking widely extended positions.

Even after the organization, or rather during its progress, McGill can hardly be said to have made a very encouraging start, outside of its Medical School which flourished from the first.

In the session of 1854, the University had, in addition to its medical class of thirty-six, just half-a-dozen students, but it was necessary to begin with the number which then offered, or to close its doors. It could never have expected its two hundred and fifty now, or its five hundred, or one thousand hereafter, unless it began with its half-dozen then. A commencement must at some time be made in every enterprise, and when the enterprise has for its object the improvement and elevation of a people, the sooner the beginning is made the better, for the agencies of intellectual and moral progress do not act quickly, their results are gradual and painfully slow.

It was in this particular, as we have said, that we owe it to the liberal and far seeing policy of the original promoters of the University that in spite of the small beginnings, they held to the idea of affording the opportunities of a full University Education to those few, instead of being content to measure the outlay by the first members who took advantage of it.

REORGANIZATION.

The time when the University was re-organized, say from 1850 to 1855, was a time of strife between things new and old in collegiate education. We had before us the old English system, and the improvements then recently introduced or recommended. We had the methods of the Scottish, German and American Universities, which differed altogether from those of England, and also to a great extent from one another. We had the new University of London, and the Queen's Universities of Ireland, with their peculiar modification of the idea that a University should be an examining rather than a teaching body. We had the imitation of this system introduced into Canada in the new University of Toronto, and we had the chequered history of McGill itself, and the peculiarities which had been impressed on it by the conditions of its origin and existence.

In these circumstances, it would have been the easiest course to have fallen back on the limited curriculum of the English Universities, and to have established here a bare imitation of one of their smaller Colleges, with as much of University show, titles, and ceremonies, as our limited means would permit. Such a course, if successful for a little time, would have necessarily failed in the end. The learning which we should have had to offer would have been of that kind for which, however valuable, the palate of a new and young society has little relish. The laws and usages of this country gave none of that prescription in favour of such studies which exists in older countries. We had no mass of educated gentry trained in this method to support us. Even admitting that we had recognized this as the true ideal of the University, it would have been hopeless to have made the attempt.

Another course would have been to have taken as its constitution that of the newest universities of the Old World, and to have vaunted before the country a magnificent and ultra-liberal programme of modern studies and options, regardless of all that had been before done here, and to the subversion of the older and time-honoured curriculum of college learning. This could have been dangerous with our limited means. It might, under favourable circumstances, have led to a magnificent if unsubstantial success. It would more likely have resulted in a gigantic failure.

The authorities of this University did neither of these things. Carefully cherishing every element of success already existing in the College, dropping only what seemed useless or harmful, they attempted to gather around the University an able and efficient staff of instructors, representing in the first instance the subjects most essential in a college course, and, in the second place, those more modern subjects, which by being more popular, and in some respects more practical, increase the value of the education given, and at the same time cause it to be more sought after. This being secured, mere forms and rules were at first left somewhat vague, that they might shape themselves according to the necessities of the case, as these should arise. At the same time, the University was

connected, as far as possible, with the practical wants of life in this country, by its two Professional Faculties, its Normal School, its attempts in the direction of Schools of Agriculture, of Engineering, and of Practical Chemistry, and by its courses of Popular Lectures. Some of these attempts have been discontinued, either because the need of them had ceased, or from want of students, or want of means, but others have been eminently successful, and all have contributed somewhat to the growth of the University.

COMPLETION OF BUILDINGS.

The next stage of progress consisted in giving to the University a local habitation, by the occupation of the original College Buildings above Sherbrooke Street, previously unused because of their distance from the heart of the city. This was followed in a short time by that most munificent act of Mr. William Molson, which has brought the buildings to their present state of completeness.

We may be pardoned if we turn aside here from the history of the college in general to take up that of the individual, whose name is connected especially with the reorganization, of which we have been speaking, and who has been identified with the progress of the college ever since 1855.

DR. DAWSON.

John William Dawson was born at Pictou, Nova Scotia, in 1820. He received his early academic training in the College of Pictou, then one of the best institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native Province, thus early manifesting a taste for original scientific inquiry.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed two important papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry and other subjects of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that Province at a time of special interest in the history of its schools and educational institutions. He took also an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labors he published several elaborate Reports on the Schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was called to the position which he still holds, that of Principal and Professor of Natural History in McGill.

The raising of the college to its present position would have been work enough in itself for these years, but in addition to this Dr. Dawson has had under his care the Protestant Normal School. From his position there, he has had a great deal to do with the moulding and controlling of the school system of the country. After many years' faithful work, he withdrew (in 1876) from the active duties of the Normal School, retaining, however, a connection with it as Chairman of the Protestant School Board.

His special work in connection with the University and the Normal School took up much of that time which would have otherwise been devoted to original investigations in his favorite science, yet a review of his more important scientific labors will show us how much may be done even in the midst of engrossing educational occupations. As early as 1850 Dr. Dawson began to make collections of the fossil plants of the Nova Scotia coal formation. In 1841 he contributed to the Wernerian Society of Edinburgh his first scientific paper, on the species of field-mice found in Nova Scotia. In 1843 he communicated a paper on the rocks of Eastern Nova Scotia to the Geological Society of London; this was followed in 1844 by a paper on the newer coal formation. In 1845, besides exploring and reporting on the iron mines of Londonderry, Nova Scotia, he published a paper on the coal formation plants of that Province.

During the winter of 1846-47, while studying in Edinburgh, he contributed to the Royal Society of that city several valuable communications, and from 1847 to 1849 we find him, with never-flagging zeal, pursuing his geological researches, and giving the results to the world in frequent papers. In 1852, in company with Sir Charles Lyell, he made a re-examination of the Joggins section, and visited the remarkable deposit of Albertite at Hillborough, New Brunswick, which resulted in several important discoveries, and in 1855 he published the first edition of his "Acadian Geology," a complete account, up to that date, of the geology of the

Maritime Provinces of British North America. In 1856, though now trammelled by the arduous duties incumbent upon the principal of a University, he still continued his geological work in his native Province.

In the following year he commenced the study of the Post-Pliocene deposits of Canada, the results of which appeared in his "Notes on the Post Pliocene of Canada," published in 1873.

While in England, in 1870, Dr. Dawson lectured at the Royal Institution. He also read papers before the Geological Society, and the Royal Society. The same year his "Handbook of Canadian Zoology" appeared, being followed in 1871 by a "Report on the Silurian and Devonian Flora of Canada," and a "Report on the Geological Structure of Prince Edward Island," in which he was ably assisted by Dr. Harrington.

Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

Returning now to our general history we note the next advance made by the college.

AFFILIATION AND CONSOLIDATION.

The next stage has been the affiliation of new Colleges, and the consolidation of the University regulations in a definite and determinate form, a work only completed in recent years. McGill's position in these respects is not precisely like that of any other University; but partakes of the methods of several, and seems eminently fitted to the work it has to do in this country. As an evidence of this, it has been imitated in several of the newer or more recently recognized Colleges of British America, and some of the points which have been practically settled are now subjects of discussion in connection with the farther reforms now sought in the Universities of Great Britain.

FEATURES OF THE COLLEGE.

Amongst the donations which have from time to time been added to the original bequest of the founder, and which will be found more fully particularized in another place, we may be excused for specially referring to the magnificent donation of Mr. Peter Redpath, which almost at a bound places McGill's appliances for the teaching of Natural Science on a level with any on this continent.

In 1855, when it fell to Dr. Dawson to deliver the first course of lectures on Natural History in the McGill College, there was absolutely no collection of specimens. The new Principal had, fortunately, brought somewhat extensive collections with him, and with the aid of the museums of the Natural History Society and the Geological Survey, secured sufficient material for the first course. But, unhappily, a large part of Dr. Dawson's private collection was destroyed by fire, without any insurance, in Burnside Hall, and the College was quite unable to replace it. Within a short time, however, the governors were able to secure the collections of minerals and plants of the late Dr. Holmes, and these, with what remained of available material from the fire, formed the nucleus of the Museum. It was, however, very small, and without any funds to promote its increase. Donations were then solicited from scientific friends, and with the duplicates of the collections and what could be procured in expeditions undertaken in the summer vacations, the college was able to organise a system of profitable exchanges. More important aids gradually came, in connection with the completion of the buildings by Mr. William Molson and his donation for a museum fund, in the noble gift of the Carpenter collection of shells, and the room provided to contain this: until finally, almost without any expense to the general funds of the college, its collections have grown to such dimensions that they would justify the erection of the splendid building now completed.

Other departments have entered upon and proceeded some way in the same course, and before many years may attain to the same development. The beginning of the library dates from 1855. Thanks to the generosity of Mr. Molson it secured an admirable room, but not until it had grown to some extent in temporary quarters. Since it has been transferred to the William Molson Hall, it has increased, almost without expense to the College, at the rate of nearly a thousand volumes annually; and at a similar rate of increase for another decade, it will either wholly occupy this hall or will require a large separate building for itself. We have no doubt that if the University could have afforded adequate salaries for a librarian and an assistant, it would already have outgrown its present accommodations, and might have attracted the attention of some one willing to erect a great library building. The little observatory, built to facilitate the meteorological work of the late Dr. Smallwood, had a tower for a telescope attached to it, when the college had no such instrument, but it was destined to be occupied by the telescope presented them by Mr. Blackman, the means to accommodate which were thus at hand. It is yet on a small scale, but in connection with the practical demands arising in this country for astronomical and meteorological work, it may be considered as the germ of greater things. In 1855 the University possessed a small collection of philosophical apparatus, originally procured to illustrate the lectures of Dr. Shaker, one of the pioneers of Canadian science, and which, with some additions, served for several years as the only means of illustra-

tion in experimental physics; but the good use made of it by the professor stimulated that truly handsome gift of the members of the Board of Governors, by which it has become probably the most modern and serviceable apparatus in the Dominion. If not otherwise, no doubt before a very long time has elapsed, those who have by its means acquired an insight into the wonders and triumphs of modern physical research, will establish in connection with it a physical laboratory with ample means for practical study, and special endowments for experimental physics. The establishment of the Faculty of Applied Science and the appointment of able professors to carry on its work, at once called forth handsome gifts and subscriptions. It has only recently received a large bequest; and the attempt, under certain disadvantages, to train some of the students as mining engineers, has not only led to important donations of specimens, but also to the presentation of that beautiful set of mining models, which are unique in this country, and which will be suitably lodged and displayed when the specimens in Geology shall be transferred to the new Museum.

The chair of Modern History seems to claim a few special words to itself. Consult that now somewhat antiquated publication the Calendar of McGill College for 1855-6, we find there the name of a gentleman well known as an able educator, as Professor of Ancient and Modern History; so that the College began well in relation to this subject. It soon, however, became necessary to transfer the occupant of the Chair of History to another and more onerous position. In these circumstances, to keep faith with the students who had entered on the course, it was necessary for a season that Dr. Dawson should himself deliver the lectures on History, which he accordingly did; but other duties soon rendered even this make-shift impossible, and students were obliged to content themselves with the ancient history connected with the course in classics, and such modern history as was included in the subject of English Language and Literature. Beyond this could be done nothing except in securing one course of lectures in English History from Prof. Goldwin Smith, and in assigning the medals given by Lord Dufferin to a course of historical reading. When, therefore, two years ago, the University were so fortunate as to secure the services of the present associate Professor of English Literature, Mr. Charles E. Mowse, the title of Professor of History was bestowed on him, and it was arranged that so far as his other onerous duties would permit, some time was to be given to modern history.

ARCHITECTURAL FEATURES.

Of the architectural features little need be said in explanation of the illustrations which will be found on the double page in the centre. These illustrations comprise the main building, the east wing of which is occupied by the Principal's residence, while the corresponding building on the opposite side, known from its donor's name as the William Molson building, contains the library, a fine room, the interior of which is also represented in another plate. On the extreme right of the engraving is seen the habitation of the Medical Faculty, placed a little in rear of the main building, and approached by a separate entrance from University street. On the opposite side, and slightly in advance of the main building on one hand and the Presbyterian College on the other, stands by itself the magnificent block of the new Redpath Museum, to which allusion has already been made and which is only just completed. The slight sketch of the interior of this handsome building, or rather of the principal hall in it, gives but an imperfect idea of its really fine proportions, but we hope at a later date to do it justice.

THE COLLEGE STAFF.

In connection with our other engravings we give on page 132 a few of the principal professors of the College. The complete list of the staff will be found in the roll of the University which accompanies this article, but our space will only admit of the representation of the Principal and the Deans of the different Faculties. Of these Dr. Leach has been long and honorably connected with the University as Vice-Principal and Dean of the Faculty of Arts. Mr. Bovey, the Dean of the Faculty of Applied Science, is a Fellow of Queen's College, Cambridge, who has been comparatively recently called to take charge of the latest established school, that of Applied Science. Mr. W. Kerr is so well known outside of McGill that any special mention of him seems unnecessary save to record the fact of his holding the position of Dean of the Faculty of Law. The Faculty of Medicine is at present without a legal head, owing to the decease of the late Dean Dr. F. W. Campbell, but Dr. Howard, whose portrait we give, is the Dean elect and fulfilling at present the duties of the office. We may perhaps mention in connection with these engravings, another picture of Principal Dawson seated in his study, which appears as part of the double-page engraving, and which will bring pleasant memories to many an old student who has there been received by him. Other portraits in connection with the University are those on page 133 of the Chancellor Judge Day, and Mr. Peter Redpath, from photographs for which we are in debt to Messrs. Notman.

THE ENDOWMENTS OF THE COLLEGE.

The name of Mr. Redpath naturally leads us to a consideration of the various benefactors who have from time to time contributed to the