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The Dalhousie Gazette.

In Memoriam.

Chas. Macdonald, M.A.

Appointed Professor 1863.

Died March 11th, 1901.

The Dalhousie Gazette.

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Professor Macdonald Memorial Number.

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'ORA ET LABORA.'

PROFESSOR MACDONALD MEMORIAL NUMBER.

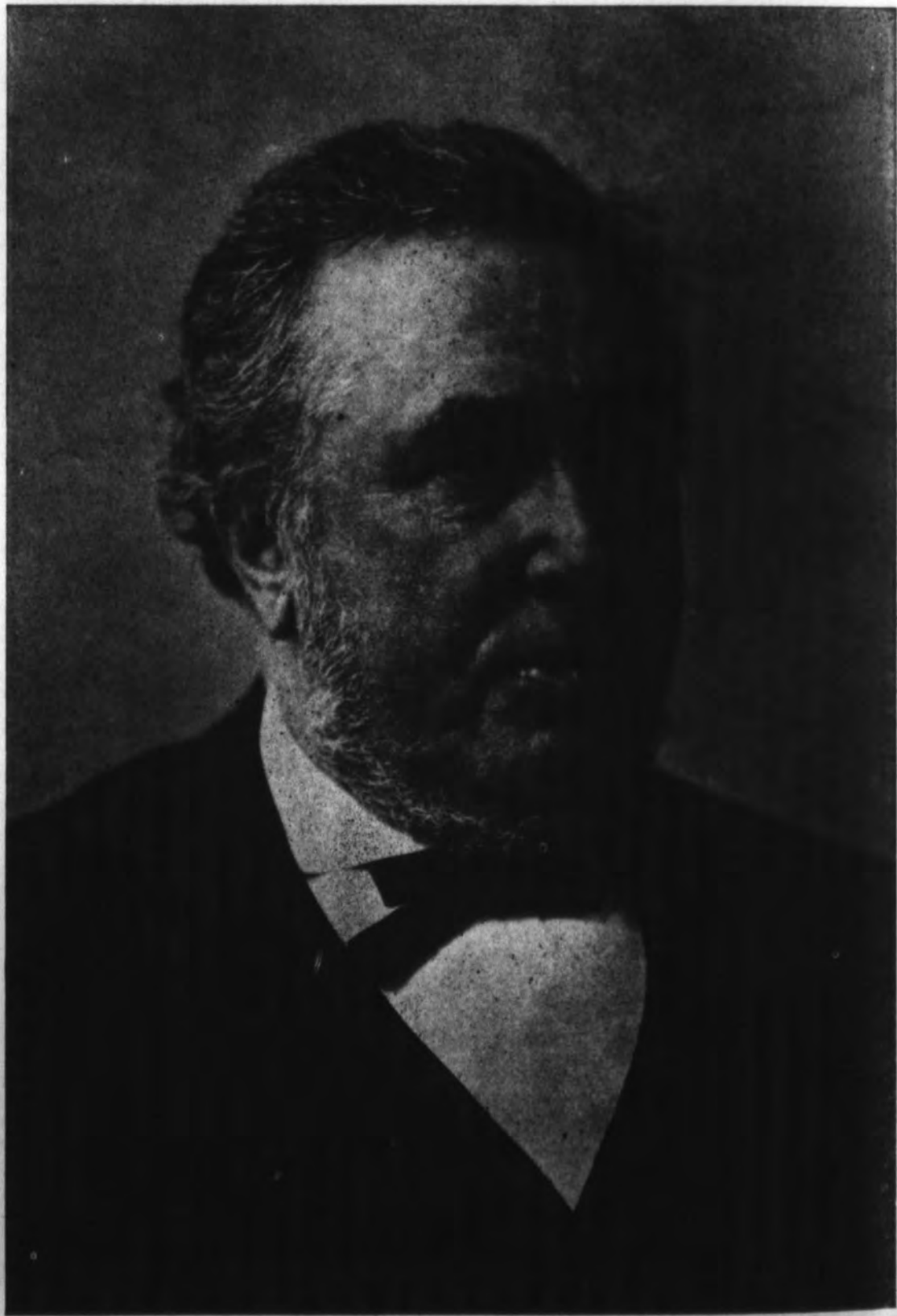


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*Faithfully Yours
C. Macdonald*

PROFESSOR CHARLES MACDONALD.

"Wilt thou not take another in his stead?"
Once more Appollo's plea; and Death's reply,
"Him and none other." So, his work laid by,
The long day of his labor being sped,
He sleeps in peace. But from that silent bed
Ere yet he passed, God grant his inward eye
Beheld a vision splendid, saw how high
Love set his name among the men he led.

Let us believe he saw in many lands
Old student-friends, and heard them cry "Fare-
well,
Thou of the tender heart and helpful hands,"
And felt it fame enough that they should tell
How no man stumbled on the upward way
Because he lived, who left us yesterday.

Mary E. Fletcher

HIS LIFE AND CHARACTER.

"To know, to esteem, to love,—and then to part."

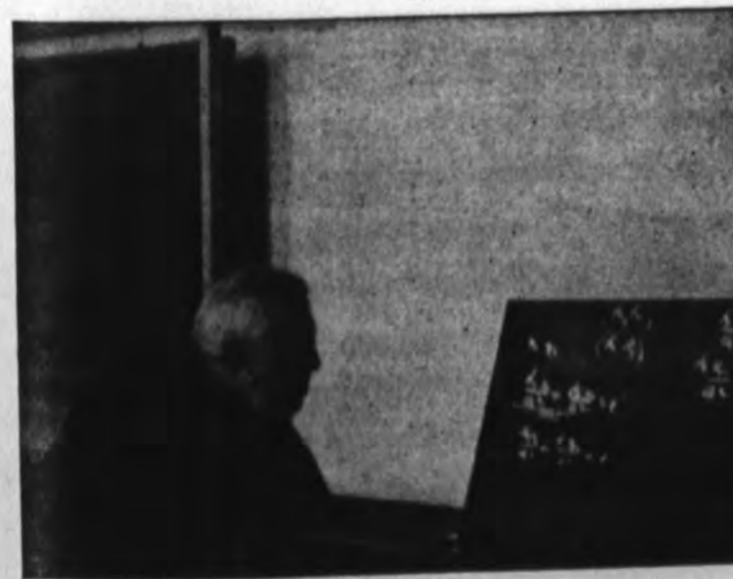
Professor Charles Macdonald, a short sketch of whose life and character, the Editors have asked me to write, was born between seventy and seventy-one years ago, in Aberdeen. His parents were John and Elizabeth Macdonald, and his father was a builder. He studied both Arts and Divinity at King's College, Aberdeen, now amalgamated with Marischal College to form one University. In the Arts Course he was the leading man of his year, winning in 1850* the Hutton Prize, which at that time was given "to the most distinguished scholar at the termination of the Arts Curriculum." There is also a tradition that he took second place in the competition for the medals in both classics and mathematics, the medals being won by men who had restricted themselves each to a single subject. That he distinguished himself in his Divinity studies also, is shown by the fact that shortly after completing them, he was appointed University Preacher or Sunday Lecturer; and his subsequent re-appointment to that office is evidence that his singular power as a preacher had become apparent even at a very early age.

After completing his studies he taught for some years in Edinburgh and in Aberdeen, winning the high esteem both of his pupils and of many friends. On his coming to Nova Scotia his pupils expressed their regard for him by presenting him with a set of mathematical instruments, and other friends by the gift of a service of plate.

In 1863 he was appointed to fill the Professorship of Mathematics in Dalhousie College, a chair which had been founded by the Presbyterian Church in connection with the Church of Scotland, chiefly through the exertions of Rev. Principal Grant and Rev. Principal Pollok. From that time to the present he has discharged the duties of this chair, and except during the time of the Munro Tutorships and during the present session, without

assistance. He insisted on giving his usual lectures five days before his death, although it was obvious to others that he was not fit for work; and there is no doubt that his earnest desire to discharge his duty, hastened his end.

Professor Macdonald was a most gifted teacher. He had acquired early not only a wide knowledge of mathematics but great power in applying his knowledge; and he kept himself abreast of the main branches of his subject throughout his life. He was accurate and precise in his statements, and possessed a remarkable power of putting in concise and luminous form, the salient points of whatever he might be discussing, even if abstruse or complex. I have a vivid recollection of some of his discussions of problems in the mathematical-physics class of my time, even to the diagrams, and though I have heard and read many discussions of them since, none have surpassed his in clearness and simplicity. He often referred to philosophical points too, in those days, more or less closely connected with mathematics, and always succeeded in the course of a very few remarks, in throwing a wonderful amount of light upon them.



Nor did his precision make him merely logical and therefore cold. On the contrary he was full of fire and knew how to kindle the enthusiasm of his hearers, half his power being doubtless due to

the fact that he himself delighted in exposition. *Macdonald at the Blackboard* is a picture that lives in the memory of his old students. One would like to have him on canvas in his favorite lecturing attitude, resting his weight mainly on the left foot with the right crossed in front, his left hand grasping the blackboard frame, his coat covered with chalk-dust, his leathern manuscript case cast to one side, his massive head, thrown slightly

back, and his face radiant with the consciousness of success in opening up to his class a new field of knowledge and giving them a living interest in it. No doubt his usual attitude has changed since my time. But while advancing years compelled him to conduct his smaller classes from his chair, they only revealed more clearly, as they thinned and silvered his hair, the lines of his finely shaped head and the expressiveness of a face his students can never forget.

He had the eye, too, of a mathematical general, quick to recognize the heights which must be scaled and held, and the minor points which might be left to be subsequently taken. He consequently never overburdened his courses, but insisted upon a thorough discussion of a comparatively small range. He had a great contempt for superficiality ; and thoroughness was the most characteristic impress that he made on the minds of his students. It is for this reason that his Honours men have so frequently distinguished themselves abroad ; and he had great delight in hearing the many stories that are told of stiff questions going round Post-graduate classes and finding no answerer until they came to a Dalhousie man. Certainly it is this characteristic of his teaching that has given our College the honorable place it occupies in the esteem of the men who conduct the mathematical departments of the greater American graduate schools.

It was full of importance for the future of Dalhousie that two such Professors as Johnson and Macdonald should have been secured at the outset for the chairs of Classics and Mathematics. These being the fundamental subjects of the curriculum, any defective treatment of either would have marred the future of the College. But, though men of very different stamp, the one perhaps as typical an Irishman as the other a Scotsman, both had the same ideal of thorough University work. And it is to their labors as Colleagues for thirty years, labors which were rendered more fruitful by the intimate friendship between them, that the present standing of the College is for the most part to be ascribed.

Prof. Macdonald's personal relations to his students have always been of the most pleasing kind. He took a deep individual interest in his men, and in those who gave evidence of



Photo by Gauvin and Gentzell.

THE PROFESSOR'S MANUSCRIPT CASE.
(In use for more than thirty years.)

earnest work an almost paternal interest. He gave his classes the best that was in him, and laboured always to make the best better, and no one can reckon up,

“His little nameless unremembered acts
Of kindness and of love.”

Partly in reciprocation, partly because of the obvious ability and the attractive character of the man, he was through all his thirty-eight years of work, far and away the most popular member of the staff—and that notwithstanding the fact that having no belief in special aptitude but only in ability and work, he was apt to attribute to laziness or stupidity the stumblings of students who had no mathematical bent. He probably said more harsh things to his students than any of his colleagues ; but they were said with such humour and such characteristic raciness of expression and were accompanied by so genial a smile, that the cutting remark was deprived of half its edge. From the very first year he was “Charlie” to his men; and “Charlie’s” sarcasms and the beaming countenance of the man in ejecting them, form a large part of the reminiscences of his former students, when they meet to talk over old times.

As a Professor of Dalhousie he was naturally led to interest himself in the educational advancement of Nova Scotia ; and his ready pen did good service on many occasions. He long ago urged the importance of a union of the colleges, seeing clearly that without the adequate staff and equipment which the Province could not provide for more than one, it was impossible for the higher education to exert upon the schools and upon education generally, the beneficial influence which it otherwise might. In the founding of the University of Halifax some twenty years ago, on the model of the University of London, a measure intended by the Government of the day to lead up to union, he recognized a distinctly retrograde movement, likely to impede union and certain to be detrimental to the higher education ; and he opposed it with might and main. And it is interesting to note that the University of London itself has now been partially reformed, largely on the lines of his arraignment of its initiation. He had no sympathy with the more re-

cent developments of education in the schools, the multiplication of subjects, the study of the whole circle of the sciences, the mere instruction in useful knowledge, the mechanical system of examinations. And even in his declining years he felt disposed to buckle on his old armour and have a tilt at them. But for some time the increasing work of his chair had been more than sufficient to absorb all his energy.

The public knew him not only as an educational controversialist, but as a preacher and a lecturer ; and during the whole period of his residence in Halifax, his appearance, whether in the pulpit or on the platform, invariably ensured the presence of a large and appreciative audience. He owed his popularity as a preacher to the confidence he inspired that when he preached he had something definite to say, the product of deep and careful thought; that he would give expression in an independent manner, to his own profoundly felt convictions, and that he would clothe them in a literary garb which few men knew how to weave as well as he. He was even more happy in his public lectures. For they gave more scope for the exercise of a fine literary taste, natural in foundation, but cultivated by a constant study of the Latin and Greek poets and by wide reading of the English classics, for a kind of humour which is indescribable because it was all his own, and for a power of elocution which was the more effective, because it had not been acquired in the schools. He always read his lectures, but he read more effectively than most men speak. His points, his sarcasms, his humorous sallies announced themselves as coming by the changing expression of his face, and his audience enjoyed them no less because he himself shared their enjoyment. He usually chose psychological themes under popular disguises ; and his aim was to open up new lines of thinking to his hearers. Some of his lectures were really discussions of difficult problems, as for example the Visit to the Jovians, which was a study of the effect on conduct of the power of perceiving the thoughts of others. He always worked up such lectures with great care, and was by no means without satisfaction at the result. Yet he underrated their intrinsic value ; and when urged to publish

a selection of them he scouted the idea of their being worthy of publication. In fact in literature whether ancient or modern, he lived among the classics ; and he had consequently a lofty ideal.

In reality he was rather a classical man than a mathematician. At Aberdeen he had studied the one subject as deeply as the other ; and throughout his life while he enjoyed Mathematics, he revelled in the Classics. After his death, the books found on his study table in addition to mathematical works and a few volumes sent in by friends, were Lucian, Liddell and Scott, the Greek Testament and Thomas a Kempis. Such books as these were the sources from which he drew his daily intellectual and religious food.

It was no doubt very largely his immersion in classics that gave him the admirably concise style, the

"Choice word and measured phrase, above the reach
Of ordinary men,"

which characterized not only his written work but his every-day talk. The trick he had of interpolating his sentences with short series of 'h'ms, which all his acquaintances must have noticed, was perhaps a habit formed in earlier years when well rounded sentences required time for their adjustment. In later years though the trick remained, the style had been fully formed and he lectured and even talked with almost the same finished formation of sentences as marked his writing. To attend his classes was thus an education not in Mathematics merely, but in English as well.

His favorite Greek authors were his constant companions in his vacation rambles. He was a skilful angler and very fond of the sport ; but he enjoyed the running water and the bright sky quite as much as the exciting play of the salmon or the trout, and much more the hours spent under a shady tree in solitary study of the Iliad or the Phaedo. When he came to Nova Scotia he anticipated for the Province a rapid educational development. Had he foreseen at an early stage how slow it was to be, he would probably not have remained, but before he had realized that there was to be no great Nova Scotian University in his time,

it had become difficult to return. With his gifts as a preacher he could at any time have secured a call to an influential Scottish pulpit ; but to a man with his love of truth or, rather his love of untrammelled seeking after truth, a position involving the signing of formularies was impossible. So in this

"cool sequester'd vale of life
He kept the noiseless tenor of his way,"

and with no keen regret, as the years rolled on ; for though his native land remained the ideal land for him, he had become deeply attached to our Nova Scotian woods and rivers, the Cape Breton hills, and the invigorating days of the Indian Summer. And he loved his work and his men.

Fishing and wood-rambling were not his only recreations. He is said to have played a good hand at whist, always for play's sake ; and he was an adept at chess, regularly annotating the chess column of the Illustrated London News for his friends' benefit. He played the flute and the violin, and in earlier years sang a good song. He took great delight also in the revelations of the microscope and furnished himself with a spectroscope that he might be able to see, himself, and to exhibit to his students, the wonders of the analysis of light.

The Professor lived as a bachelor to the age of fifty-one, when (in 1882) he married the eldest daughter of the Hon. W. J. Stairs, of Halifax, a lady with wide literary interests herself, who was able to enter into and appreciate what formed the larger half of his life. He looked forward doubtless to a long period of happiness ; but his wife died at the end of one short year, a few weeks after the birth of their son. Such a bereavement could not but affect him very deeply ; and it was long before he regained anything of his former buoyancy. Indeed he was never afterwards quite the same man. A great hope had been disappointed.

"The still sad music of humanity"

had become very real to him, and the old interests had lost in part their power to charm.

Through the death of the Professor to whom we were all so deeply attached, our College has met with a great loss, an irre-

parable loss. It is not merely that he was a successful teacher, though it will be difficult to find a man who can fill his chair. He was much more,—a man who joined to his mathematical ability, literary taste, and to literary taste, philosophical insight, whose literature and philosophy had become part of his being, and who consequently spoke and wrote and thought as few men can. He was familiar with the wisdom of the ages, as only one can be who all his life has scorned the frivolous in literature and kept himself in close contact with the wise. And he not only knew of their best thoughts and had read them;—they had entered into him and transformed him, so that he was unlike other men. He was unpractical, of course, in every-day business matters. Such a man is bound to be. He was eccentric; but his eccentricities drew you to him, never repelled. He was dogmatic; but his dogmatism was tempered by the courtesy of the gentleman of the old school. He was perhaps even in some respects, narrow; for he had lived so much in the ancient world as to be unable to recognize all the reality of modern progress. But these were the peculiarities or defects of a character so strongly marked as to make him tower above other men. He was in fact the one man among us with some, nay with many, of the elements of greatness. And now that we see him no more in his accustomed place, we realize

“That there hath passed away a glory from the earth.”

*See Calendar of University of Aberdeen for 1885, where the Charles Macdonald to whom it was awarded is stated to be the Professor of Mathematics in Dalhousie University, Halifax, N. S.

J. G. MacGregor

IN MEMORIAM.

Charles Macdonald was a man of sterling character, of exceptional intellectual clearness and grip, and one of the best all-round scholars in Canada. Without gush, and despising cant phrases—especially in religion, his unaffected piety told on all who knew him intimately, just because of the utter absence of pretence. I considered him a genuine religious force. His tenderness of heart was as unmistakeable as his sincerity, though he did not parade it any more than he paraded his religion. His humour—a spiritual fruit always indicating a rich nature—was better known to the public, for every lecture and some of his sermons revealed it, but only those who had the privilege of his friendship knew its full excellence. We have all lost a strong, true, brave man; and Dalhousie has lost a pillar it can ill spare.

From the day of his arrival in Halifax, we became friends, for I at once recognised his sterling worth, and there was no work of importance in which he did not aid me with counsel, pen, voice, or purse. In all the years that have passed since we met, I never heard an unworthy sentiment fall from his lips, and no deed was done for which his friends shall ever have to apologize.—

“Whatever record leap to light,
He never shall be shamed.”

His bequest to Dalhousie was characteristic of the man. He knew where it was weakest, and therefore he quietly determined to strengthen it there. Surely, I shall be pardoned for suggesting that his old students and friends should unite now to make the Library worthy of the chief University of Nova Scotia, on condition that the Library bear his name, as a fitting memorial of his interest in it, and of his whole long and invaluable service. To such a memorial I should esteem it a privilege to contribute.

George M. Grant

REMINISCENCES.

It was in the fall of 1869 I arrived at Halifax to attend Dalhousie College. A late October snow shower was disappearing before the sunshine on all the Southern slopes of hill and hillock, but in the evening the reverse slopes were wintry white under a chill blue sky. The College rose on the identical site of our present City Hall, walling off the northern end of the old Parade behind a deep stone moat, with a semi-military air; but its freestone face of the first quarter of the nineteenth century was then much more imposing and beautiful to my eye than the more slender facade of the selfsame stone to-day.

The matriculation examination was held in the western wing. I have no distinct remembrance of Professor Charles Macdonald on that occasion—only a sort of hazy image of a *Deus ex machina* on the distant platform. But the *machina* is as clear to me still as the vision of the cloud-girt Sinai could have been to the forty-year wanderer fording the Jordan. It was a large blackboard on a stand covered with as many geometrical questions as would occupy a country school for a week, plus as much algebra; and only an hour and a half in which to answer them. Of all the papers it was the most terrible in perspective and prospective. I must have done passably well, however, notwithstanding my consciousness of not having come up to my expectations, for I had nothing further to remember about it.

I had not only been at school but had taught school myself; so that it is not surprising I should at once have been impressed by Professor Macdonald when he for the first time appeared before

his class to teach. He was quiet and at home. There was no sign of trepidation or even of self-consciousness, and the largest class in the history of the University—the largest also for several years afterwards—he appeared to hold in the hollow of his hand. There was grace in his easy pose, pleasure in his beaming eyes, and a telepathic radiance from his countenance which embraced every individual in the class saying without the encumbrance of speech “Gentlemen, I am ravished with the thought of introducing you into the delightful mysteries of mathematics in which recreation I am confident we shall both enjoy ourselves.” Every one reciprocated the unspoken speech in the loudest hurrahs of visible thought: “Lead us on. We long to follow such a leader.” Even the man who lagged behind ere the week was over, and had to be stung into action by a polished, playful shaft from his quiver, started off true at the first hurrah.

His movements to and from the board while demonstrating were genile and with a minimum of action—never an unnecessary or abortive action. As were his movements so were his words. Musically sweet, without hurry but swift as thought, they went directly to the point in the shortest line. Etymologically perfect, each word expressed exactly what he wished. Grammatically fortunate each sentence ran its rhythmic race to the end without restarting or halt. No hesitation or stutter except the punctuation mark indicating the scenic change from the demonstration to the quiet electric flash of epigram drawn on himself by some bump-tious blunderer. At this punctuation signal a hundred eyes would sway spontaneously towards the anticipated victim who as a rule was worthy of and benefitted by the stroke, while the class was entertained.

The folklore of his wit in class-balloon-pricking, bounce-taming, habit-curing, laggard-spurring and sometimes punitive wit abounds among his old students as leaves in Vallombrosa; but I must leave it for those who can tell a story. I was invariably too sensitive to allow myself by any temptation of ease or native carelessness to come within a thousand miles of where such a lightning stroke might fall, and so escaped unscathed. In fact on one dangerous occasion I actually won a doubtful compliment. It was towards the end of our first year, after I had

applied myself to the solution of a certain geometrical problem stated in class to be insoluble on the bare Euclidean assumptions. Failing to demonstrate my contention on the occasion I was allowed to present it in writing. The series of demonstrations covered some pages of foolscap. The Professor after having looked over the work, reported next day to the class; "I-- I-- --I don't know that I can see any particular merit in Mr. MacKay's work-- except the demonstration of his tenacity-- of his British pluck in following the thing out". The word "British" consoled me.

The neat logical procession of Professor Macdonald's mathematical demonstrations, the brief and accurately exact language of description, and the luminosity of the general presentation from premises to conclusion was the great revelation to the crude mathematicians entering on his course. At the present day it is not easy to understand how inefficiently mathematics were taught in most schools in those days. The present generation has had the benefit of the Professor's genius and method through hundreds of his students who to a greater or less extent passed on the power received from their master.

In my last two years at College I took the special honors course in mathematics, in which I was the sole student. I had therefore the most abundant experience of the loveliness of the man, of the trouble he delighted to take in helping even a single student who took an interest in mathematical study. What I experienced has also been the experience of his mathematical students in the more advanced classes, where he became at length personally acquainted with each of his students, a feat impossible in the large classes coming in new to the college. From remarks during these two last years I was under the impression that he was preparing some mathematical works for publication; and that he was even contemplating work in physics—on the mathematics of light. About this time he procured some valuable instruments for the physical study of light, such as a superior compound microscope and a spectro-scope, which was for some time the only instrument of the kind in Halifax.

He was also one of the most popular lecturers in the Pro-

vince. Although one of the ablest as well as most enthusiastic classical scholars, capable of speaking and thinking in these un-English idioms, he nevertheless developed an admiral epigrammatic Anglo-Saxon style which captivated the general public as well as the scholar, and which characterized his ordinary conversation as well as his lectures. In one of these lectures he once good humoredly referred to himself as "an extinct theologian". A theologian of an unusually high order he certainly was, as was evidenced by his appointment as university preacher at Aberdeen before he was called to Dalhousie College in Nova Scotia. The humor of the epithet "extinct" can be understood from the following quotations from one of his latest sermons preached in the Cathedral Presbyterian Church of Halifax on the 28th of August, 1887. I make the quotation lengthier than necessary for this purpose, in order to indicate his theological point of view with some definiteness:

* * * My fears for Christianity are not connected with the two causes mentioned: which, so far as they are real, are probably temporary. My fears connect themselves rather with our religious teachers than with our people; with our clergy, rather than the laity as they call us. Our foes, our unintentional but worst foes, are those of our own household, holding high position therein.

(* * * * *)

Another fear I have for Christianity, though less than this, is the attitude of enmity and anathema taken up by many of our religious teachers towards what they call science. Nor is this danger slight. Such teachers—whatever their standing—I look on as clerical culprits; and I am sorry to say they are often popular ones. From their depraved instructions we, in this congregation, are wisely exempted; except, it may be, when some transient preacher thinks to regale our ears with pleasant words.

Their enmity to science doubtless arises from their passionate devotion to the ordinary and traditional beliefs concerning the Bible, and to the fact already stated, (of which they are dimly conscious, that some of these beliefs must be modified, as some have already been modified by the sure conclusions of modern science. In condemning science they quote the authority of the Scriptures themselves

* * * * * But Paul no more condemns science in our sense than he condemns steam navigation.

In condemning the useless and the nonsensical we can all most heartily agree with Paul. But it is difficult to forgive those who, by using a mistranslation, pervert his authority, unless their plea be their own complete ignorance.

For, what is science, this bugbear of so many religionists? Science is merely the facts of nature, in its various departments arranged and ordered so that our reason can comprehend them. Facts reduced to principles; that is science. The student of Science has nature, i. e., the works of God for his Bible. From the things that he hath made are clearly seen His Eternal power and divinity, in the results of His will both in time present and in time past. The scientific man may say to the theological man, "I am trying to know something of God on the intellectual side of his character, just as you are studying him on the moral side. Your sources of information are more fallible than mine. You have a written book, written by various authors, transmitted in copies by men through many ages and by many hands. In my department the writing is by the finger of God himself. Men may deceive, by inattention or by design. But the sun, the skies, the stars, the rocks, the seas, the forests do not deceive. Possibly, we cannot read them: but, if and when we can, they tell us the truth. My studies and labors *may be* as religious as yours." There may be a great deal of speculation in science that has a very slender foundation in fact; but so there may be and so there is in theology.

* * * * *

"I believe because it is impossible," *may* have been the utterance of a saint; it is very likely to be that of a fool.

But he was nevertheless a theologian, and a genuinely religious man, but of the type of the future evangelist of whom he was one of the fore-runners. And he winds up with a peroration introduced by the following words:

"What do you say to a second Reformation, in which old and time-hallowed misunderstandings of Scripture and of the true place of the Bible, and priestcrafts and idolatries, shall be dismissed to their own place?"

But he was still picturesquely conservative in many of his early notions, literary, educational, political and social—*notions* which from his youth formed the environment—the featherbed—of his intellectual repose, from out of the midst of which he so often projected the strong beam of reason's searchlight on the other parts of the universe from the traditions and philosophy of

religion to the dynamics of the orbs waltzing in space. And perhaps it was better thus; for the all round rationalist is often as painful a foreign body in the average social organism as a thistle spine in the quivering muscle. He has taught us lessons and left us pleased. He has planted the seeds of much future clear thinking, which have not yet had time to show their green blades much less their multitudinous bloom. He is still living potentially among us in all the strength of his fascinating manhood, and with all the beauty of a lovely old age in which he disappeared from our eyes.

A. H. Mackay,

"Weep not, beloved Friends! nor let the air
For me with sighs be troubled. Not from life
Have I been taken; this is genuine life
And this alone—the life which now I live
In peace eternal; where desire and joy
Together move in fellowship without end."



Photos by Notman, Halifax.
 Prof. DeMille.
 Prof. Johnson.
 Prof. Liechti

Prin. Ross.

THE FACULTY OF '76.

Prof. Lyall.
 Prin. Macdonald.
 Prof. Lawson.

RECOLLECTIONS.

My recollections of Professor Macdonald go back to the days of the old stone building on the parade, when the parade itself was a "no man's land" claimed by both City and College and neglected by both. The mathematical class-room was the large room to the left of the main hall, and it is safe to say that no man ever entered that room and came under the influence of "Charlie's" teaching without experiencing something at least of a mental shower bath, and having his intellectual sinews braced accordingly. Prof. Macdonald was a many-sided man, and scores of persons who had the pleasure of his acquaintance will each recall and dwell with pleasure upon different manifestations of that versatile intellect. But I think that any one who both knew him as a teacher and afterwards in the customary relations of social life will agree that it is as a teacher he is most imperishably stamped upon the memory. For above all things else he was a great teacher. That was his life work and he did it with all his might. Mathematics is not commonly supposed to be a fascinating or exhilarating topic. But in the Professor's hand it became both. In all his classes, from the freshman to the senior, and from the opening of the lecture to the finish he had the power and faculty of arousing and preserving the keen attention of every student, and compelling him to exert his reasoning faculties to the utmost stretch. His power of lucid exposition, of entering into the difficulties of the dullest intellect, his charming manner, his mode of varying his own lecturing with a running fire of question and discussion with individual students, and the ever present humor, commonly genial, though it could be acid enough if occasion required, all combined to make his lecture hours as delightful as they were in the highest degree mentally invigorating. One secret of his power was that

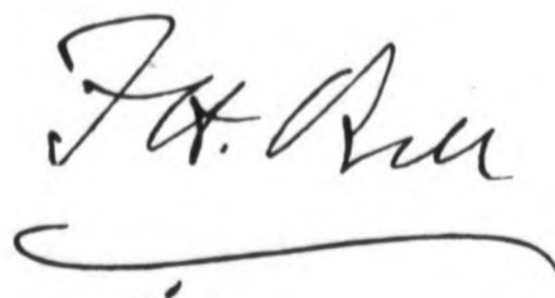
he continually made you feel that the object aimed at was not the imparting of knowledge but to give method and discipline. Slovenliness either of thought or language was abhorrent to him. To teach men to know whatever they did know, accurately, to think clearly, and to express what they had to say simply, lucidly, and with point and emphasis—these were the things that always impressed themselves on me as being the cardinal points of his teaching. For mere result he was comparatively indifferent. It was not so much that you had worked out a correct solution of your exercise as the evidence that you had honestly set your brains to work over it. For the honest student he had infinite patience, though with the careless and indifferent he could be sharp enough.

After my graduation I continued to enjoy the privilege of a comparatively intimate friendship with him until the time of his death. His summer he almost invariably spent somewhere in the country rusticated in old clothes, with a fishing rod and a Greek book. But during the college term I was a most frequent visitor. Sunday evening was his favorite time for a chat. Professor Johnson was until his retirement an almost invariable guest, and a more delightful evening than one spent with "Charlie" and "Johnnie" it would be hard to find. Professor Macdonald had the happy faculty of not only being an admirable talker himself, but of making everybody else talk his best. He was as good a listener as he was a talker, and he seemed to be, and I have no doubt he was, genuinely interested in whatever topic came uppermost in his guest's mind. He was fond of conversational arguments, not of the controversial kind, but sufficiently dialectic to put his companion to the stretch, and make him do a good deal more vigorous thinking than the most of us are accustomed to do. There was very little of the professor about him in private life. Of his own subject least of all. In fact he made no professions to mathematical eminence. I have no doubt that of all the branches of his course, both ordinary and honor, and possibly a good deal beyond, he had a most adequate knowledge and complete readiness of control. But I don't think he liked mathematics for its own sake, or pursued it far beyond the requirements of his work. I have heard there are men who

read mathematics for the pleasure of the thing. I am tolerably confident Macdonald never took his recreation in that form. I once knew a sea-captain, master of his profession if ever there was one, who yet seemed to take no special pride in his knowledge of his calling. His chief story was his knowledge of the healing art. If you wished to arouse Titanic wrath just intimate that there were diseases beyond the ken of his powers of diagnosis, or incapable of healing by duly graduated prescriptions of Holloway's pills or ointment. So while the professor would speak slightly of his mathematical lore you must not on peril of your friendship hint the slightest doubt of the thoroughness of his Latinity. I am sure the man who ventured to challenge his use of the Latin subjunctive would never afterwards have stood as high with him as before. And I have no doubt he was right, and as he said himself, small wonder, seeing that he began his Latin at the age of eight, and for the next eight years devoted not less than an average of four hours a day to do it. He loved the language. A piece of well turned Latin prose was to him an intellectual treat, and I have more than once heard him say that if he wished to express an idea with the greatest neatness, accuracy and precision of which he was capable, he would prefer doing it in Latin to English—excellent as his English style was in these very subjects. His Greek lagged behind. In fact his struggle with this language was almost pathetic. Every summer he took away with him into the wilderness some author—very often one of the tragedians,—and faithfully wrestled with it. But he seemed to make little progress. His familiarity with the language grew no greater, and a couple of years before his death he told me he had decided to give it up.

It was a curious thing that though a most highly "cultured" man in the true sense of that much-abused word, he was not at all a learned one. He was not as I have said a profound mathematician. Even in his beloved Latin his reading had apparently been confined to few authors,—Horace, for instance, I have heard him say he had never read a line of. At some period of his life he had made a considerable study of chemistry, and astronomy came within the range of his collegiate work. But in

some respects he was curiously wanting. With history for instance he had almost no acquaintance, and his reading in English literature in general was apparently of the scantiest. I do not recollect of him ever making an allusion to an English poet, and his familiarity with English fiction was not much greater. He was a steady reader of the current English Magazines and newspapers; and his interest in contemporary affairs never flagged. But his favorite subject I think was ethics. In all that pertained to religion and morals he took the deepest interest, and would always discuss any phase of them that happened to come up with keen interest and an evident desire to get as near to the bottom as it is permitted to our intellects to go.



“An old man, stout of heart and strong of limb
His bodily frame had been from youth to age
Of an unusual strength; his mind was keen,
Intense and frugal, apt for all affairs.”

THE MAN I KNEW.

If only—

“The *Evil* that men do lives after them,”

the late Professor Charles Macdonald's memory has no claim to a long life.

Yet all his old students and friends and all who knew him even in the most limited degree are assured that his was a life that lives after death. He was a seeker after truth, and to the student especially, but to all thinkers, was a guide, philosopher, or friend. A few features of his character claim more particularly the writer's respect, especially his charity—not soft-heartedness, or feminine weakness, nor the feeling born of a merely indulgent attitude to the world in general,—but a charity based broadly on the realization of the fact that truth is relative. Pure spring water is a harmless beverage to the dweller on earth but Stokes and Dunkell became intoxicated when they attempted to drink it, up in the planet Jupiter, where the rivers ran lager beer—the only safe draught for that locality. What is time or space? If a man runs fast enough he can “surround” the world with a circle of fire and as far as our powers of perception or measurement are concerned be at the same place all the while,—but he must run fast enough—ininitely fast, and then we are lost; time and space are annihilated.

Something more than logic-chopping engages the mind—the inexorable “therefore” at last loses its place as doorkeeper to our thoughts. Professor Macdonald's wideness of vision, his power of using the special knowledge of mathematics which he professed and taught so well as the mere “grammar” to be used in reading and construing and understanding the wider problems of

life and existence puts him before us not only as the mathematician, but the philosopher. His power to instruct and please and enlighten was enhanced and perhaps made possible by a felicity and precision of expression which it is hard to describe but harder to forget. In his company you must think. The old Greek puzzle—How many grains of sand does it take to make a heap? How hard to realize that if you had nothing in one pocket, and nothing in the other, you might still be greatly if not noticeably out of balance? Two nothings may be as unequal as two heaps of sand.

The strong man conscious of his strength—It is conceivable to imagine him saying with his last breath, "If I had my own way I should live many years yet." He bows only to the inevitable.

Those of us who, like the writer, are not thinkers and can only give impressions remember much in lighter vein. "The vast territories of ignorance" which a bad answer would reveal in the lecture room, "the endless source of amusement" which ignorance affords to him who smiles at his own mistakes, the "gratuitous insolence" of the inattentive student, the "strong recommendation to buy a new hat" given to the student who was careless about his dress will all be recognized and remembered. If not "there must be something wrong somewhere." All that the life and work of this great teacher have done for those within the sphere of his influence cannot be spoken and can only be felt by those who have a "command of silence."

Graduate.

DALHOUSIE'S LATE PROFESSOR.

It is not easy to single out the distinctive characteristics of Professor Macdonald, for he was many-sided, but some features of excellence in him impressed all who knew him. One of these was his thoroughness. The clearness of his class work showed how thorough and complete was his knowledge of his own peculiar province, but he carried the same characteristic into other fields of scholarship. His regard for classical training was partly due to his high esteem for it as developing thoroughness; he had himself passed through that experience, acquiring such knowledge of Greek and Latin classics that he found in them an unfailing source of pleasure. While possessed of wide culture, yet it was to him incomparably more important to know everything about something than to know something about everything. He could frankly acknowledge ignorance of a subject, for he would not claim a familiarity that he did not possess, but, when he expressed an opinion, it was with the mastery and ease of intimate acquaintance. Being so thorough in his own work, of course he respected the work of others. He would hold tenaciously his own opinions, as is usually the case with men who do their own thinking, but he knew the difficulty of reaching reliable conclusions, so that he had careful regard for the opinions of those from whom he differed.

Another characteristic that impressed all his friends was his intellectual independence. "To thine own self be true." It mattered not that others held certain opinions: he must prove them for himself if he was to hold them; and when he could not agree with them he was quite prepared to stand alone, "Athanasius contra mundum." In the common intercourse of life

most of us tend to become rounded off into much the same style, like pebbles on the seashore worn into similarity by the incessant wave. But not so he. You could not forecast his opinions. He retained his own sturdy individuality, his own way of looking at things, thus bringing to the consideration of any subject a wholesome freshness like a breeze from his native hills. This gave an originality to his treatment of almost any theme; even his briefest note was different from the notes of other people; and for years he was the most attractive lecturer that appeared on the public platform of our city.

But it was to his intimate friends that the best elements of his nature were disclosed, for he had the reticence of his race towards a new acquaintance. I had the exceptional pleasure of camping out with him for a fortnight over twenty years ago, salmon fishing on the Restigouche and under such circumstances men soon get turned inside out to each other. He was one of the most genial companions, one of the gentlest, most courteous, most unselfish men I have known. He would even give up to you the best pool on the river when it was his turn to fish it, and to a salmon fisher that is the *ne plus ultra* of unselfishness.

It is the privilege of a great and successful teacher that he, more than most men, continues after death to live on in the hearts and lives of others. As a teacher, Professor Macdonald has rarely been equalled in our Province; and now he needs no eulogy, for, though he has gone from us, yet he must long survive in the great and abiding influence he has exerted on the generations of students that have passed under his hand. These will fondly cherish his memory, while they gladly recognise that, not only by the knowledge acquired under his guidance but even more by the effect of his character and example, he has in many ways laid them under large and lasting obligations.

David T. Gordon



Photo by Notman, Halifax.

"CHARLIE" IN '76.

PROFESSOR CHARLES MACDONALD, M. A.

"Bless and praise we famous men—
Men of little showing !
For their work continueth
And their work continueth
Broad and deep continueth
Great beyond their knowing !"

Professor Macdonald held the chair of mathematics at Dalhousie College from its reorganization in 1863 until his death a few days ago—a period of nearly thirty-eight years. Most of the students who entered the college were under his tuition for at least a year, and all the graduates in Arts were in his classes during the first two years of the course. His striking personality, his long period of service, the longest in the history of the college, and his intimate acquaintance with successive generations of students, combined to make the sum total of his impression and influence on the general body of the alumni greater than that of any other member of the Faculty. Many an alumnus has realized, sooner or later, that of all his teachers Professor Macdonald was the one who had most strongly impressed him or most greatly influenced him. The sturdy figure, the springy step, the genial and kindly countenance, the characteristic accent, are fixed firmly in our memories. Wherever two or three Dalhousians are gathered together and the talk goes back to old college times, most of the stories and most of the remarks are about the man whom they affectionately and respectfully call 'Charlie.'

The intercourse between Professor Macdonald and the larger number of his students was confined to the class-room. Who that has attended his lectures will ever forget those hours? His remarkable power of clear exposition, his wonderful faculty for inventing and applying quaint, striking and well-fitting terms and illustrations, his alertness, liveliness and energy, his ever-ready wit and humour, kindly and on occasion sarcastic, his sudden sallies, aroused rare interest and life in the mathematical classes. Those who were well prepared in mathematics and did not find the subject too difficult can testify to the great enjoyment which they found in his work. Many even of the inhabitants of "the territory of ignorance," who vainly tried to escape his dashing raids by "making rambling excursions into the regions of nonsense," take pleasure in recalling their experiences.

As a teacher Professor Macdonald had few equals. His work was done thoroughly and conscientiously. He took delight and pride in giving his very best to his pupils. He was an adept in preparing their minds for the reception of new ideas, and then setting these ideas in the clearest possible light. At a few words from him difficulties in theorems and problems vanished into nothingness. Frequent was the wish, 'O that he had written the book !' His careful, painstaking, lucid and enlivening explanations did much to help his students to master the subject in hand, and made it interesting to many who under any other circumstances would have found it exceedingly dry. But he magnified his office and did not look upon himself as a mere drill-master in mathematical methods or retailer of mathematical facts. To him may very aptly be applied Kipling's lines on the teachers at Westward Ho :—

"And we all praise famous men—
Ancients of the College ;
For they taught us common sense—
Tried to teach us common sense—
Truth and God's Own Common Sense
Which is more than knowledge !"

A highly important feature of his class-room work was the attention paid to language. By precept and example he impressed

upon his pupils the great necessity and advantage of expressing themselves well. For many students this was of far greater practical value than a large amount of mathematical knowledge. Many letters and many sermons have greater clearness and force because the writers had the good fortune to have attended Professor Macdonald's lectures.

His conscientiousness as a teacher was shown especially in his treatment of individual students. He asked few questions of those who were up in the work and directed his attention mainly to the weaker members in the class. Those who were either backward or dull in mathematics may have imagined that he pursued and attacked them for the sake of some wicked pleasure which was thus afforded him. But this was far from being the case. Teachers know what a temptation there is to neglect the duller pupils and deal with those who are readier and more responsive. Professor Macdonald never yielded to this temptation, although according to Scotch and Canadian ideas of collegiate education students are regarded as almost fully responsible and independent persons who are beyond the school-boy stage of being accorded special care and attention. He would condemn heartily any system of school education under which an unsympathetic teacher with impunity may devote his energies mainly to the bright mark-winning pupils and neglect their duller companions.

Professor Macdonald possessed in a very marked degree the lovable qualities of a genial disposition, sympathy and kindheartedness. In these is to be found the explanation of the influence which he exerted over his students. The genial disposition was apparent at a glance. His sympathy with student affairs, serious and other, was keen. Although he was himself a trained musician, no one enjoyed more than he the discordant noises in the halls that went by the name of college singing. In the old building on the parade he sometimes seemed to frown on scrimmages, but a twinkle in his eye showed his real feelings on the matter. He took great delight in the manifest hearty good will of the student body.

Many a student has had experience of his kindheartedness.

An instance may be mentioned here of his kindness to a schoolboy who came down to Halifax about twenty years ago to enter Dalhousie. At that time the entrance examination in mathematics was partly oral; this was probably to enable the teacher to get a little acquainted with his would-be pupils. In his turn the boy was called over to sit by the side of the examiner and be asked questions. Now this particular boy was not very big and he was very timid and very much in awe of a professor at such close quarters. Very likely his concern was evident; for the professor gently laid his arm across the boy's shoulders and then asked him that favorite question about parallel lines. This was followed by enquiries about the fishing on Salmon River. "You have done very well," a kindly pat on the shoulder, and the dread ordeal was over. That student never ventured to become overbold in the presence of his mathematical instructor, but he never afterward had any fear of him. Some of those who have been plucked in mathematics may think that the examiner did not show a kindly heart to them. If however, they knew the real facts and had seen him eagerly and anxiously searching a paper for another glimmer of sense that would justify or excuse the addition of the marks needed to raise a student to the passing point, then they would no longer have doubts about his sympathy and kindness.

Men studying for Honours, seniors and new graduates were sometimes honoured by invitations to Professor Macdonald's house. He used to entertain them after a peculiarly Scotch fashion, with moral aphorisms and genial hospitality. To his young friends who were leaving college he was accustomed to give the advice: "Learn to play a good game of whist; your game of whist may make a man your friend or your enemy for life." He had an especially great fondness for those who had been students in the sixties and the early seventies. When one of their names happened to come up, he showed the warmest and most kindly interest, saying half apologetically, "You know he was with us in the early days."

One of the things for which Dalhousie should feel especially indebted to Professor Macdonald, and with him to Professor

Johnson, is the rigorous maintenance of a high standard in examinations. This meant thoroughly good work on the part of both teachers and students. Dalhousie men have won scholarships abroad rather because of the thoroughness than the extent of their undergraduate studies. Having only scanty means and a poor equipment the college under the paramount influence of these professors presented a noble example of 'plain living and high thinking.' Whether or no Dalhousie receive the much needed additions to her material resources, it is to be hoped that in her instruction she will always maintain the standard of thoroughness which was set by Professors Macdonald and Johnson.

Although he had a thorough knowledge of a wide range of mathematics, Professor Macdonald, as he sometimes remarked, was not what is now called a Specialist in that subject. Had he chosen to devote his talents and energies solely to mathematical study and investigation, there can be no doubt that the science would have been greatly enriched by his labours. But it is not likely that a man completely absorbed in one subject would have performed such signal services for the college and its students as Professor Macdonald.

To have been his pupil was truly a large part of a liberal education. He was at once a model and an inspiration to his ambitious pupils. For those who intended to become teachers, a year under him was worth volumes on pedagogy. Those who went to the larger universities to continue their studies in mathematics found that they had well learned many things from him which more than made up for that fact that he had not had the time to give them more extended courses. Dalhousians cannot but feel that Professor Macdonald had that rare combination of talent, energy, sympathy and personality which none but the greatest teachers have possessed. All his students realized that he was not a mere teacher of mathematics, but that his efforts were primarily directed towards developing in them clearness of thought and accuracy of expression, self-reliance and true manliness, in a word,

to convert unformed and inexperienced boys into thoughtful and responsible members of society.

D. A. Murray.

THE TEACHER.

To Dalhousians, Professor Macdonald bears much the same relation to their University as Queen Victoria bears to the British Empire. King Edward VII may perform the official duties of head of the state, he may surround himself with the attributes of royalty; we, his subjects may see on government documents the phrase "On His Majesty's Service" we may speak of King's Counsel, and sing God save the King, but while our eyes see and our ears hear and our mouths utter the word *King*, our hearts feel the word *Queen* and the name Queen Victoria is synonymous with the Empire we love.

So to the students and graduates of Dalhousie, Professor Macdonald is indissolubly connected with the university, his position is unique, and though a professor of mathematics may be appointed, he will not be a successor to Professor Macdonald; there is no apostolic succession possible in this case.

To say that Professor Macdonald was a remarkably lucid and brilliant teacher, does not cover the case. I have studied under lucid and brilliant teachers, but I have met with none who with such unerring instinct hit upon the particular difficulty of

the individual student, and adapted his explanation to that difficulty.

We all laughed at his jokes, which however were not simply jokes, but served to illustrate and to fix in our memory some important idea. I remember for instance how to our class he illustrated parallax "As I move about the room in one direction keeping in view Mr. Grant's head, which however clear is not transparent, I see it move across the wall in the opposite direction."

Most of us have heard addressed to ourselves some keen and witty criticism, all of us have had kindly attention to our personal difficulties, all of us have known that he helped us just at the right time in the right way, and as no one else could have helped us.

When I went to College I had no liking for mathematics, and the first special impulse that I remember was in the explanation of repeating decimals which changed a meaningless and uninteresting rule into something intelligible and beautiful. Before I had finished my second year I had decided that, if allowed, I would take the course in honour mathematics.

I believe there are people who could not learn mathematics from Professor Macdonald but such might well enquire whether, nature, in their creation, had not entirely omitted a portion of their brain.

All of us have in our memories some of the epigramatic sayings which frequently fell from Professor Macdonald's lips, as when, for instance, in one of his brilliant lectures he described a smattering of many subjects as "that general knowledge which means definite and dense ignorance."

In one of his addresses he spoke of the advantages that students have nowadays in the books that are available by which the difficulties of learning a subject are greatly lessened. "But" he said "we may go too far in our simplification and leave too little to the student." And if we do not stop we shall have books like "A Complete Treatise on Philosophy in the words of one syllable" or "The Differential and Integral Calculus adapted to the Kindergarten."

We each have our recollections. We each cherish our memories of him who has passed away, and we all feel that a chapter in the history of Dalhousie is closed forever.

John Waddell

"Thou soul of God's best earthly mould!
Thou happy soul and can it be
That these two words of glittering gold
Are all that must remain of thee?"

Feb 26th
1901
Dalhousie College
HALIFAX, N. S.

My Dear Fellow,

The "Statics" will do quite well. You know it is intended that the "Go as you please" idea sh^d have some place in M.A. work (See appended note to the syllabus).

The subjects treated in the earlier part of N.'s "Principia" we now treat by Algebraic and Calculus Methods. It is a Geometer, and a giant in Geometry. The giant dandles the baby, it is you or me; and it's good for us to be so dandled, even tho' we learn little that is quite new.

I have omitted, usually, the Principia from the course; for our Students ~~now~~ studied it.

See that you know your ~~institutions~~ for Centre of Gravity ~~well~~; and my blessing to you.

Faithfully Yours, in haste,

C. Macdonald

IN MEMORIAM.

C. M.

"Evaditque celer ripam irremeabilis undæ."

Tho' slow his footing, and his head grown gray,
Time on his spirit set no mark of age;
In all our hearts, there rang but yesterday
The words and laughter of our cheery Sage.

Wise and unworn, for eight-and-thirty years,
He bore, by right the Teacher's honor'd name.
The teaching that illumines and endears,—
This was his secret, and his quiet fame.

Who knew him best, his worth can best declare,
And long shall mourn above his silent dust,
The unfailing wit, the will to know and bear,
The heart so warm beneath the cynic crust,

A. Mac. Mechan

AN ESTIMATE.

My personal acquaintance with Professor Macdonald was very limited, being confined to rare meetings at wide intervals of time, the exchange of a letter now and again, and the ordinary salutations conveyed by mutual friends. I never heard him lecture, either in the class room or in any other place, and as the sphere of his exertions was almost wholly circumscribed by these limits, it would be absurd of me to attempt to gauge the man or his work. But this I can say that those of my students who completed the course of their studies at "Dalhousie," and had thus come under the influence of Prof. Macdonald, almost without exception, expressed their obligation to him as their teacher. All admired his mathematical teaching—lucid, stimulative and ingenious; some, into whose brain a geometrical principle could not, by any means, be forced, could yet appreciate the humour which illumined their failure, while others spoke of him with affection. Upon all, however, he left the impress of his personality. And surely this is an indubitable proof of the presence of a great teacher. A man may be accomplished, he may be master of his subject, and have in a supreme degree the faculty of communicating knowledge and evoking a desire of it, but the subtle and dominating influence over the minds of others whereby they unconsciously acknowledge the supremacy of a stronger nature is possessed by few. When all the acquisitions of a student's career, have been transformed, or have merged in those of after life, evidences will still remain of the ascendancy of such a mind. I am led to regard Prof. Macdonald as a teacher of this rare kind. Such a man it is a great misfortune for the country to lose, but to "Dalhousie" the loss is well nigh irreparable.

Alex. Anderson

SOME THOUGHTS ON THE DEATH OF PROF. MACDONALD.



Our venerated Professor of Mathematics is gone. To him, while in the strenuous discharge of duty at the busiest part of the term, the summons came; and he passed out from our very midst. To the many who have studied under him in the past, and to us, who are students of to-day his death

brought a sense akin to that of personal loss and of genuine sorrow. So long had he been connected with Dalhousie, and so clearly identified with her work, that he had come to be looked upon as being a part of the Institution; and there are perhaps few who had not heard of his name and had not heard some anecdote concerning him ere they came as students to these halls.

It is not all of teaching to teach. Behind the instructor there is the individual. Professor Macdonald's was a strong, even a striking, personality, and while some of us may find it easy to forget the processes and abstractions of mathematics, we are all likely to retain and cherish memories of the man who taught us. It was inevitable that one of such strength of character as he had would have a considerable place in the thoughts and conversation of his students. When the awe of his death shall have passed, or when, in after years, we call him to mind it will not be of Professor Macdonald that we shall be prone to think or speak, but, with all respect and veneration, of "Charlie."

As a Professor he had very definite and decided views on teaching and the subjects taught. The student who came to him with the fewest preconceived ideas about mathematical truths and methods, and who was ready to learn, was most likely to win his greatest esteem. To us it seemed that he delighted to think that he was tilling virgin soil. He preferred to have students take the first year work instead of matriculating into the second. In illustrating a point, and especially in taking up a subject new to his class he would use the most apt simile. But enthusiastic as he was about his own work, he was far from deeming it the whole of an education, and in his lectures he made frequent reference to the other studies. One thing was bound to impress us and that was his conscientious devotion to duty.

To some he may have seemed a difficult man to approach, so that one could not be sure just how any advances would be taken, but there was in reality no grounds for misgivings. The conditions surrounding his own college career were doubtless much different from those in which we now find ourselves, yet he evinced a keen perception of the ways of present day student life and thought. He impressed us, too, as one who kept in touch with the times and who noted changes although not always approving of them. He followed closely progress not only in his own field of work but in the realm of science, and he knew of the latest movements in literature and world politics.

Outside the college walls and in his own home he was the soul of geniality, and an evening spent at his house was an event to be remembered long and pleasantly. Not a few of us have been permitted to hear him deliver some of his inimitable platform lectures, and we will all agree that it was a privilege indeed. The writer of these lines scarcely hopes, while in the flesh, again to leave this old earth so completely behind as when, entranced by the richness of the imagery, and borne away by the very force of imagination, of the lecturer, he crossed etherial expanses and sojourned among the Jovian natives or explored the wonderful caves of the moon. Some time, perhaps, these lectures will be published, but then they will be without the charm of their author's delivery.

Professor Macdonald was undoubtedly failing during the last few years, and we who have marked his brave struggle against the odds of time and the pressure of overwork, could not but wish we had

known him in his prime. Dalhousie's Grand Old Man is gone, but his works and his memory must long abide.

One of '01.

AN EVENING WITH PROFESSOR MACDONALD.

"For he too was a friend to me."

All who passed through Professor Macdonald's classes must have been impressed by his clear, logical thinking and teaching, his ready wit, and his kindly spirit. But those whose privilege it was to enjoy his friendship after college days can truly say that to know him better was to love him more.

Two such fortunate ones were frequently asked to take tea with him, and enjoy a cosy chat by his cheerful fire. A typical invitation was a post-card bearing the words:—

"Carissima Puellula,

March 2

Will do

At 6 p. m. for Miss B. and you,

C. M."

On such occasions the two friends presented themselves promptly at the hour appointed, for, in the Professor's eyes, want of punctuality was little less than a crime. They were received with a kindly grasp of the hand, a pat on the shoulder, and—"Well, little girls, I am glad to see that you are on time."

As a host he was delightful. His perfect naturalness created an atmosphere of freedom, and made one feel entirely at home. His thoughtfulness in little things was remarkable. Nothing that could add to the comfort or pleasure of his guests was ever forgotten.

Much as he valued the mathematics as a means of mental discipline, and familiar as he was with the world of Science and of Art, perhaps it was Literature that appealed to him most. He once re-

marked that he could not understand anyone preferring a difficult problem to a good novel, from the point of view of the pleasure to be obtained. George Eliot was one of his favorites, though he thought her later works spoiled by "insufferable affectation." Of *Romola* he said:—"It is poorish, but you cannot galvanise into the semblance of life the Italy of the thirteenth century"

His excursions during the summer vacations furnished material for much interesting talk. He loved to get close to Nature in some quiet spot, where he could fish and meditate, undisturbed by the ubiquitous American tourist. After one such trip he described himself as having been "in the wilds, seeking sea-trout, and finding none; though I waded after them like a crane, or, more properly, in the garb of old Gaul. I must seek some finnier spot." On another occasion he told that "a considerable songstress from New York was a co-inmate of the inn."

As every line of his face showed, and every one of his crisp sentences proved, the saving grace of humour was his in large measure. He always sees the comic side of things, perhaps, from principle as well as from temperament. "Life," he sometimes said, "would be intolerable if it were not for its fun."

Many of his quaint, original expressions will readily occur to all who knew him. Of the prairie-country he said:—"Let us call it Flat-land; but I for one could not be comfortable in space of only two dimensions." Speaking of one whose ambition craved a wider sphere than custom allows to women in Canada, he said she looked upon her sex as "slight put upon her by Nature." One more:—"Only think how little we know. Take the case of mathematics. You know you can integrate $A(x)CD$ in only a few simple cases. To integrate that for all or any possible form of $A(x)$ would need the intellect of an archangel. And yet we all feel that there is some $Z(x)$ which, when differentiated, would give $A(x)CD$. Think only of finding the equation to a mind. What a lot of constants there would be in the expansion of $Z(x)$."

An evening spent in listening to such talk, around the Professor's hospitable tea-table, or before his glowing fire, was indeed a treat.

He was a charming conversationalist, and in his own inimitable way gave many bits of friendly advice. He urged regular reading in some definite line, and if possible, a little daily work in his much-loved classics. When talking of teaching, he often said:—"Always

prepare for your classes. Even if you are only going to teach the Alphabet, think how to do it in the best way." He added that although doing the work he had done more than thirty years ago, with, so far as he knew, no diminished power, and with increased wisdom, he never faced a class without special preparation. Every evening he would sit for some time before his fire, with his pipe, thinking over the morrow's work, seeking perhaps some new way of presenting his subject, or some fresh illustration. He often spoke of old students with great interest and affection, calling one "a good fellow," or another "a very nice girl."

Strongly marked traits in his character were his perfect sincerity and truthfulness, and his intolerance of anything like sham or pretence. On this subject he could be very severe. One of his little homilies ran in this way:—"You think wisdom and justice control, and merit wins, and that is perhaps nearly true in the long run—but it is very long. In the short run—if the phrase be allowed—it is humbug and pretence that carry the day: and the wise and the good and the clever, clear-sighted folk have often to grin and bear, and be drilled, and wait for their chance to put wrong right, and put incompetence and pretence into their proper places. Brazen self-assertion can carry the day over modest knowledge and wide-horizoned thought." And again—"People are jealous of their dignity in the inverse proportion of its reality. D varies as $1-D$, is the formula, when $D =$ the reality, and $D 1 =$ the consciousness of the same." An application of the same general principle was:—"When people have little to teach they are tempted to eke out the importance of what they have to say by self-importance. If G stand for the gravity of their instructions, and S represent their own self-opinion, or rather the airs they assume, you will generally find $G S$ equals a constant."

This use of mathematical illustrations was very characteristic. Speaking of the subject he said:—"Even apart from minute details, the study of mathematics furnishes tests, criteria, aids to opinion, etc., in reference to some of the most burning and current controversies of the time. To be destitute of the modes of mathematical thought is, for anyone above the animal, very unfortunate. The only thing approaching an equivalent is a thorough training in Logic."

But pleasant hours pass only to quickly until, good byes—even the last ones—must be said. The Professor always stood at the door, watching his visitors as they went down the steps, perhaps carrying

with them a favourite maxim—enforced by the whole of his long and honorable life—"Laugh at your troubles, and come up smiling to your work."

Two Graduates.

IN MEMORIAM.

The Writer's acquaintance with the lamented deceased dates from the year 1846. In November of that year we found ourselves



"CAROLE."

seated together in the Bejan, (Bajan or Bigent) class in Kings College, Aberdeen,—Bejan being the title used in that University, and in St. Andrew's, Scotland, corresponding to that of Freshman in other Universities.

Macdonald, or Carole as he was usually designated, had entered as a Bejan for the second time: the reason being that he had meanwhile secured a Bursary, whether by presentation, or at the annual competition, the writer is not able to say,—he

thinks the latter. At any rate, Carole, then a boy of from fifteen to seventeen years of age was already recognised among his fellow students as a "Lad of pairts",—noted especially, for his

readiness to aid those less advanced in any branch of the somewhat primitive course then pursued in the University. A College Journal was started, to which he, if not one of the Editors, was a frequent contributor; and in the Debating Society, he occupied a prominent position,—the class-room in which the debates were held being sure to be crowded when it was known that Carole would be one of the Speakers. In any "sky-larking," such as invariably occurs among students, he played his part, was noted especially for his extraordinary skill in wrestling, so that it became a sort of tradition that no one however powerful, had been known to toss him off his feet. Year by year in the prize list, Carole's name was invariably found high in every department,—among the highest always in Classics and Mathematics. And it came to be understood that at the end of his fourth year, the Magstrand Class, as it was termed, he would be a competitor for both of the great prizes of the University, at that period, the sixty pound Greek, and the sixty pound mathematics, as also for the Huttonian or twenty pound prize for general excellence, which fell as a rule to the Student successful in Mathematics. He failed in all three, however; being "choused" out of the Mathematical honour, it was currently alleged, by a most shameful procedure on the part of the Mathematical Professor of that day. There is a branch in Mathematics known by the name of Porisms, which has the peculiar merit, it is said, ascribed by a Cambridge Fellow to a Formula discovered by him, of being—"of no use to any one for any purpose under the Sun," for which fact said Fellow is alleged to have thanked God. On the subject of Porisms but two modern works, it is believed, then existed, only one of which, in Latin by the illustrious Simpson of Glasgow, was available,—a copy being in the College Library. This work, Carole found, had been taken out by the Professor, and he applied to him for its use: but was assured that there was no necessity to study Porisms: the examination would not include any reference thereto. In fact, a large portion of the paper was devoted to the obscure subject in question,—rendering it perfectly hopeless for any man, in the brief time available during examination, to cope with the theorems or problems (Porisms occupy a sort of shadowy

border-land between both), set down for solution, and Carole accordingly failed.

It became known among the Students that the Book on Porisms had found its way into the hands of Carole's competitor: it was surmised that a hint had been given, directly or indirectly, as to the line to be followed in the examination, and certain denominational bitterness, it was whispered, had biased the Professor. When the prizes were announced there was nearly a riot. The Students of all classes hissed, and hissed, and hissed again. And, as the delinquent Professor, for such he was believed to be, passed out of existence not long afterwards, it was currently assumed that his mortification at his reception on that day (in 1850) hastened his demise. In any event, while the other student gained the money, in the hearts of the students, the honours were Carole's.

The acquaintance of the writer with his lamented friend, turned in the first instance, not upon questions of Scholarship, but upon the interest of both in music. Attending the College-Chapel, one Sunday, during the Bejan-year, the writer joined his voice to that of the Precentor to the best of his ability, and was surprised first, that no one else appeared to be singing, for, in fact, at that period to sing in Church was quite out of fashion: and next that every eye of the Professors from their Stalls, and of the scanty numbers of Professor's wives and daughters, and of the Students present, was turned upon him, in what seemed a suspicious manner. The result however was, that the Precentor invited several of the Students to form a Choir of which Carole was one: and the foundation of our friendship was laid. We had even the conceit of thinking that our singing was the chief means causing the beautiful College Chapel, after a short time to be crowded with attendants, where, previously had been but "a beggarly account of empty boxes." Circumstances of one sort or other separated us for a time. But we met anew in 1854 as Students in the Aberdeen Kirk of Scotland Divinity Hall: and our acquaintanceship deepened into intimacy, and grew by degrees into a friendship that strengthened with the years. Together we were licensed by the Presbytery of Aberdeen in March or April 1856, that Presbytery being reckoned at

that period to be the most severe in its requirements in all Scotland. The Exams, extended over three days of some five hours per diem of written work, capped by oral examination at the pleasure of the members of Presbytery. The Writer can never forget the last scene in Macdonald's Exam. Quoth one of the Ministers present with much impressment: "And now Mr. Macdonald, can you tell me, How many persons are there in the Godhead?" Carole looked at the writer as if, for the moment bewildered. He had presence of mind however to repeat the answer contained in the Shorter Catechism. Whereupon "Quite right, Mr. Macdonald: I am quite satisfied: that will do"—and the ordeal was ended. The fact was that suspicions as to Carole's soundness in the Faith had gone abroad. And the Parson in question, the good natured occupant of one of the leading City Churches, but whose scholarship was of the most meagre, and whose eccentricities made him a laughing stock,—had in view to dispose forever, by this abrupt query, of all possible insinuations as to Carole's orthodoxy.

After his license, Carole, besides being a Teacher in one of the Aberdeen Grammar Schools, filled for several years the position of College Chaplain,—his discourses being characterised by uncommon precision of thought and beauty of diction: but rarely appealing save to the intellectual aspects of our nature. And accordingly with the years, the trammelling influence of "the dead hand", of being obliged to recognize the expressions of belief by men of a by-gone age as authorities in what bears upon the religious life, grew in irksomeness. Carole was glad to enter upon work demanding no signing of a creed as a preliminary to the performance of its duties. From 1863 to his death, the story of our lamented friend's career belongs to Nova Scotia, and can be better told by one or other of the many benefited by his confessedly great ability as a teacher. That he excelled in mathematical lore goes without saying. What is not so well known is that his own taste inclined specially to Classical Literature. On his annual fishing excursions, he carried invariably two or three pocket copies of Greek tragedies or other ancient writing. As for Latin it had become to him almost a mother tongue: for not only could he write in that language

with idiomatic accuracy, but often when travelling, he engaged in conversation therein with one or other foreign savant met by him on his journeys. His store of general knowledge surpassed that of almost any other within the range of the writer's acquaintance and, albeit not deeply read in Philosophy, his keenness of insight rendered him a dangerous antagonist in an argument. His attitude in Ethics may be said to have been that of the ancient Stoics and, when last we met, he was busily occupied reading the Republic of Plato, in the original of course. For no translation he contended did or could do the great Greek justice.

Of his character as a whole, the writer can but say that mentally and morally as physically he was, "Totus, Teres atque rotundus". Mayhap he inclined to the satirical, and used his rare powers of sarcasm, on occasion, somewhat mercilessly. For he was as intolerant of sham in all its guises as was Carlyle, and could be as epigrammatically witty as Douglas Jerrold, and he dearly loved a neatly turned jest.

His religion was chiefly of the silent sort,—akin in no small measure to that of Matthew Arnold,—the feeling that much of what passes for profound theology is but, "throwing out words at a subject too large" to be dealt with in formulae of phrases.

In short, he was, in many respects, more of a Greek than of a Jew, or, so to say, classical rather than orthodox in any denominational sense of the term. And a certain atmosphere of loneliness seemed to encompass him as a rule: the consciousness that between him and society in general, there was little in common. His life work was not, in the highest respects, congenial.

But he devoted himself to the discharge of its duties with rare and unremitting conscientiousness: and strove to render its performance subservient not merely to the imparting of so much mathematical drill, but also to the educating of those under his tuition in precision of thought and its expression. To know him in private was to enjoy a benediction. All the resources of information at his command were thrown open without stint, not less than were the means at his disposal to exercise hospitality.

And his tastes were so Catholic that one must need have been steeped in stupidity not to possess some opening through



ABERDEEN CHESS PLAYERS,
"Carole" at the Extreme Right.

which to receive alike pleasure and profit. To the writer his loss is irreparable. The very last letter received from him, a few weeks ago, bore reference with a certain sadness to the consciousness of declining powers, and declared, "I must resign", which he has been summoned to do. And we can but mourn.

A more thoroughly equipped scholar, in well nigh every department of human knowledge,—a mind of superior culture,—a man of scrupulously honourable disposition,—a truer friend, the writer has not known and does not expect to meet. He has left little or nothing behind him, it is to be feared, by which his worth might be estimated by those ignorant of his personality.

But surely, he did not a little during his well nigh forty years of laborious work in Dalhousie, to elevate the tone of thought and the standard of education at least in Nova Scotia.

And his memory will be cherished by his fellow students, and referred to by the many to whose minds he furnished an upward stimulus with the respect and affection due to distinguished ability and genuine worth. The world of the present seems distinctly poorer in consequence of his departure.

VALE! VALE! AMICE!

P. S. Among the men of some note who were, more or less, class fellows with Professor Macdonald may be mentioned Geddes, a great Greek Scholar, afterwards (if not now) Principal of Aberdeen University, : McLellan, Author of Primitive Marriage, McChray, Primate of the Episcopal Church in Canada, &c.

J. Munroe, D.D.

THE DALHOUSIE OF '67.

Whether fortunately or unfortunately, we began our college career with the reopening of Dalhousie University. Then the revival of Dalhousie was looked upon as an experiment—many were not favorable to the movement, prophesying its collapse — whereas the more hopeful were sanguine of its success. The standing of Dalhousie University today furnishes the best evidence of the wisdom, courage and foresight of the men who advocated and effected its re-establishment. It is certain that if we admired the grand parade, our first sight of the old building did not leave a very favorable impression upon us, nor were we enthused over the attractiveness of the class-rooms. So far as the building and its apartments were concerned, (which included in addition to the classrooms, the janitor's residence and the Post Office), they were not inspiring to an ambitious student.

Whatever may be said of our surroundings, the high standing and stirring worth of the men who composed the Faculty of Dalhousie University in those days made up for other deficiencies; and the deep interest they took in the college as well as in the welfare of the students keep the names of these once eminent men ever green in our memories. James Ross, Thomas McCulloch, William Lyall, Charles Macdonald, John Johnson and George Lawson were the men who had to do with the laying of the foundations of Dalhousie's greatness and to whom the college is largely indebted for her prestige and prosperity.

Whilst the students of my day cherished a profound respect for all the professors, Macdonald, Johnson and Lawson were the most popular, and of these three, the one who inspired us the most and

whom we were inclined to lionize was Charles Macdonald. Although dignified ; yet he was easily approached and we always found him very obliging, ever ready to explain a difficult problem when asked to do so ; and when he saw that a student was in earnest he was not slow to recognize the same and to encourage the plodder. Occasionally we disturbed his well balanced mind by paying the fines which were exacted for not wearing our caps and gowns to and from college in half-cents, but at such a time his wit and humor served him a good purpose. The first time we heard him preach was in Truro, where he supplied St. Paul's Church on the Sabbath immediately following the close of the first session of Dalhousie. His sermons were much appreciated, and from that time onward he was popular with the citizens of Truro. On Monday we drove him around Truro and its vicinity and also visited the Normal School, the Mathematical department of which was presided over by Mr. Mulholland. We remember the two had a lively discussion over the methods of teaching mathematics. There was a diversity of opinion for certainly they didn't agree ; any way one was a Scotchman and the other was an Irishman,

By the death of Professor Macdonald, Dalhousie College lost a great teacher and a master mind. Men of such a type leave an indelible mark upon the institutions of learning of which they have been integral parts, and their ennobling influence cannot be bounded by the time or space circle in which they live but is illimitable and ever-enduring.

Edwin Smith.

HIS FIRST DAY IN CLASS.

I was one of the first class of about twenty—all raw recruits,—who awaited the late Professor Macdonald, as he was to make his first appearance in the class-rooms of Dalhousie College. It was in the large room at the western corner, probably his class room always after, and one of the best lecture rooms in the old college building. I can recall the scene—the size of the class—some of the faces—where I sat on the third bench from the front, north side, and which continued to be my place to the end—the air of expectancy which reigned in regard to the new Professor, whom none of us had seen as yet. The door opens at length. He enters and with quick, springy step, so peculiarly his, passes across the floor to the blackboard and to its further side. Then he gave a glance at us—half kindly, half confident, a glance we liked—perhaps as much for the confidence of it, as for the kindness. I have a dim idea he addressed us a few words, and then set to work on the blackboard. There his sharp, crisp method soon had every eye and brain rivetted, and that first day, the young men who were in that class room were aware of two things, that the new Professor had mathematics at his finger tips, and what was more—he knew how to teach it. That opinion no one of that class, so far as I know, ever had any reason to change.

I may say I was one of his favourites. He had his favourites. Anyone who took a special interest in his class work was sure to be on the right side of Professor Macdonald. And those who didn't—well he had his way of dealing with them, and in all my college experience, in the old land as well as the new, I never knew a Professor who had a better. That shrug of the

shoulders—that little cough in promise of his own discomfort at some bungling, and so disturbing to the bungler—those sharp caustic thrusts that never missed their aim ; these were weapons always intended, and so often effectual, for the dull or laggard students' good.

John M. Allan

RECOLLECTIONS OF PROFESSOR MACDONALD.

As I sit down to write a few words *in Memoriam* of Professor Macdonald there comes up before the mind's eye the grave and reverend face of the Master as he used to stand before his classes, investing the Mathematics—that severest of the sciences—with a strange new interest by his original and inimitable methods of instruction. While the proper work of the hour was proceeding apace there was constantly being brought to bear upon it a wealth of striking and apt illustrations, occasional flashes of wit, homely metaphors, quaint analogies, the whole moving upon the ever-present background of that charming and genial personality, the face full of expression, and the almost speaking gestures. The combined effect of all of this never failed of course to win for him the delighted attention of even the dullest of the class. Now he pauses to bestow a word of encouragement upon the nervous or the backward : now to prune back a little the rank growth of conceit in some young hopeful fresh

from the petty triumphs of the village school with his ideas of his relation to the world at large in hideous perspective.

I had the habit, when attending his class, of inserting (with a sort of Boswellian thrift) among my notes those interesting 'asides' of wit and humour, with which, as I have said, he was wont to enliven his expositions. Here, in the midst of the solution by one of his students of some exercise, there is this : "Some of us, it would seem, are not improving in accuracy of diction." Again : "Take 4 out of bondage to the surd." On another page : (somebody is now reciting in Euclid) : "your arguments lack cogency ; it's a *spley* method of speech ye have. It's not gude." Farther on : "Use the first equation as a sort of a *sledge-hammer* to break up the others" To explain the next quotation the reader may imagine that a noisy freshman has been indulging in some ill-timed piece of "horse-play" : "There is nobody more tolerant of fun than myself when it reveals the presence of genius, and nobody less so when it is guided by stupidity." An inconsequent remark has dropped in the course of a demonstration : "Eh ! Mr. X—a proof of that last statement *would not be superfluous.*" And so on through many pages of what might be called "mathematics illuminated."

Upon the table in his Library where everything, on the last day of his life, was as it had been left when the weary teacher had laid him down upon his bed to die, there was lying beside his old pipe-tray, with its few simple necessaries, a copy of Lucian open at these words : "Praise is tolerable only so long as the recipient recognize everything that is said as justly applicable to himself : beyond that point it is false and clearly flattery" One could not but feel as one read these words with the added interest bequeathed to them by the fact that they were among the last which the Professor had pondered that whatever sins the man might have to answer for who now lay "with the throttling hands of death at strife" in the adjoining room, he needed never to plead guilty to the charge of being a flatterer. I remember on one occasion when bidding fare well on the evening of a Convocation day to a student whose studies had not taken him very deeply into mathematics he said, "Well, Mr. M—. I remember you used to put your work down very clearly." Then seeing a look of satisfaction come over the face of the student and fearing he

had gone too far, he added : "Eh ! very well put down, Mr. M—, what there was of it."

Speaking of Lucian one cannot but think how characteristic of the man was the fact that Lucian was the author he was reading even in these last days. The Professor's abhorrence of cant-phrases in any subject and his lack of patience with conventional forms of belief which had outlived the significance they once had for the human heart perhaps found an echo in the slashing satire of the wicked old Samsatian.

But there was another book near the Lucian which showed most truly another and no less striking side of Professor Macdonald's character, and one on which we may dwell with a fonder remembrance. It was Thomas a Kempis' *Imitation of Christ*—a Latin copy—a book which was his almost constant companion in recent years. He was indeed, as DeQuincy said of Charles Lamb, "a Diogenes with the heart of a St. John."

His hospitable home on Carleton St. was a sort of Mecca to old students who turned in their maturer years to the cheering influences which came from contact with him whom they had loved and revered in their college days. Here there are always a 'Highland Welcome' and much excellent discourse from lips now closed for ever.

The simple and appropriate services of that day when what was mortal of him was borne to the tomb on the shoulders of the students who are now the last to know him will never be forgotten by those present : least of all the sentences broken with emotion which fell from the lips of his old friend Dr. Pollok ; but those left behind are glad to feel that a more vivid remembrance will be the familiar form of the Professor as he laboured for well-nigh forty years while the classes came and went : for the precincts of the college will long seem haunted by that gracious presence and though his good gray head which all men knew has passed beyond the view of the bodily eye, he has left behind a rich and abiding legacy in the minds of men made better for his having lived among them.

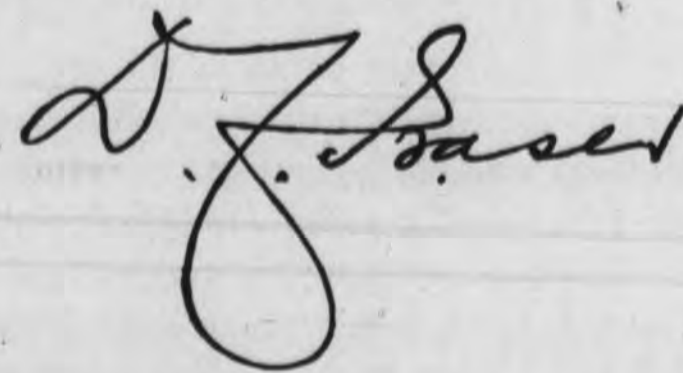
J. W. Logan.

OUR OLD PROFESSOR.

Truly Dalhousie has lost a kind, good, and able teacher. When Professor Macdonald died the last link that bound the students of thirty-five years ago to the faculty of that day was snapped. Having known him perhaps more intimately than the majority of my fellow students, his death is to me almost one of personal bereavement. When under him I worshipped him as a teacher, and then and ever since I loved him as a man. He was the embodiment of what an instructor should be. He was none of your modern crammers. His ambition was to train us to think. He did not decide on the narrow lines of exact answers. He often told me he gave marks at examinations to students' answers which were incomplete because they indicated a knowledge of the principles underlying the solutions of the questions, for, said he, the answers show they are on the right road and that is often better than to be able from memory or in other ways (and here his bright eyes twinkled) to give a complete answer. His idea of a young man's training was that he should be able to follow up his studies intelligently after he graduated without a teacher, or if he had to engage in the ordinary employments of life that he could utilize his college work in the sphere of his future avocations. This I submit is, or ought to be the aim of all teaching. In "Charlie's" class—as we were accustomed not unkindly to call him—this aim was kept constantly in view. Humbug and frivolity found no sufferance at his hands. The fact that two and two always made four, that a point has position but not magnitude, that the whole is greater than its part, as well as all other self evident or clearly demonstrable truths, could never, he felt, tolerate self-conscious pride. Woe to the vain fellow who assumed airs of wisdom in

that iconoclastic class room. A few stuttering coughs, preceded such remarks as "Euclid thought differently but he must have been mistaken," or "The world is pining for a new work on mathematics from you," or some other equally withering remark was the reply to the self-satisfied though silly presentation of the student's ideas. The foolish fared no better, Poor M. one day was pleasantly grinning. "What are you laughing at" said the professor. To raise a laugh, M. replied, "my own folly." "You will find it an inexhaustible source of amusement" was the answer, and he gravely went on to solve some knotty problem. When we were in class we were expected to work. So much did he love his subject and so anxious was he that we should get the advantage of his teaching that he deemed it sinful waste of time to spend a moment idly. He could scarcely be civil with lack of ordinary success in his class. To him mathematics was the use of brains and he could never understand how Lord Macaulay was in such terror of his examination at Cambridge. I remember him once telling a wise-looking fellow who said he could prove some problem but would rather not, that his reply might mean he gave up his claim to intelligence. He evidently, so we all thought, did not hear the student's claim that he "could". Many considered him severe but we all felt that his desire to make us understand the work so we might go out of college well equipped, amply atoned for his apparent severity. Like all men who are masters of their own departments he was impatient to the claims of other subjects considered by him only entitled to secondary consideration. His own special subject and classics and perhaps philosophy with a permission to live given to others, would describe his idea of a college course. He assumed we entered the University with a full training in the English language. How little he knew till he tested our knowledge, how sadly deficient some of us were. He himself was, with the late Governor Howe, the best writer of vigorous pure English we ever had in Nova Scotia. I feel sure that he could have filled the chair of classics and English literature as successfully as he did that of mathematics. Were I writing an extended article on the deceased I would enlarge on his eminent ability as a teacher. I owe much to him, more than to any other of my professors, able men as they all were.

But if he trained our intellects he also affected our lives. As a man he was an inspiration. I think I see him now with buoyant step, rosy cheek, keen eye and kindly smile, enter the class room. He had a smile for all and only such circumstances as I have referred to would interfere with his uniform good temper. After the work was over, he was still willing, aye, anxious to help us out of our difficulties. How often have I sat an hour with him after a comfortable meal at his own house (and the students of my day will remember how much that meant to the "lodgers") and listened with affectionate reverence to his conversation. He never talked of himself. His easy, graceful style, his extensive and always exact information, his judicial fairness of the views of others profoundly impressed me. I said nothing. What had I to bring to him? He did not monopolize either. He would ask questions, enquire about my prospects, lay down general principles which were better than advice, and cheerfully help me over my fears. I think he must have been at his best with a small audience. He was most retiring in his habits. I have met him in after days in a crowd; and though I believed, as I do now, he was the wisest among them all, his voice was seldom heard. Personally I have lost a wise teacher and a kind friend. When I met him after our relations as professor and student ceased I then found that his interest in me had not ceased, but that every student who had been under him was followed wherever he may have been with kindly good wishes. Poor, however, this tribute to his ability as a teacher and his worth as a man may be, I bring it as a garland of wild flowers and reverently lay it on the grave of him who helped me in my studies, and won my affection by the kindness of his heart.



AS I SAW HIM.

I have never known a student to take four years in mathematics at Dalhousie and not to have the highest appreciation of Professor Macdonald and his abilities as a teacher. To come in close relation to him it was necessary to take his Honor Class. In it we were four in number and, to use his own words, were, "like a happy family." He was seated at his small blackboard and we were near by. When a hard problem was demonstrated the bit of chalk would be tossed to one side and the smile spreading over his face would be broadened when our looks showed him that we fully understood what he had proved. He had the happy faculty of making the most abstruse plain. Several things contributed to this. Among them can be named these: his mathematical knowledge was at once accurate, thorough, and extensive; he never met his classes without having carefully reviewed his work the evening before, on the theory that a further study enabled him to present the subject in a better light than he had done the previous year; and in his explanations he tried then to put himself in the place of the listener and suited them to the intelligence of the average student in the class.

He took great pains in the preparation of his examination papers. No 'catch' question had a place there. Each tested the students' knowledge and was a model of correct expression. He strongly objected to having them printed lest they would be seen by the students before the proper time. And this fear was not groundless, for in his own college days in Scotland two such cases occurred. They may be worth relating. A student was writing for honors and competing for a valuable scholarship. He conceiv-

ed the plan of making love to the printer's daughter and through her procured copies of the papers. The result was he led his class and won the coveted distinction. Several years after he repented of his deed and made full confession to the college authorities. The other case was as follows. Some students waylaid the messenger and from him stole the papers he was carrying from the printing office to the college. Great confusion ensued. The examinations were stopped for the time and were held anew but not until the beginning of the next session. These two cases having come under Professor Macdonald's notice he jealously guarded his papers and wrote them in his own hand.

Himself a student, always he despised those persons who, to quote him again, "let their knowledge drop or try to cast it off—as is the manner of those semi-barbarians who burn their college books when they have ended their college course." He was a good classical scholar. He seemed to prefer Greek to Latin and on the table in his study could always be seen an open volume of Herodotus, Lucian, or Plato. He greatly deplored the fact that the study of classics had such a small place in the curriculum of the schools of Nova Scotia. Indeed he would have as much time devoted to Latin and Greek in a day as our best schools give in a week.

As a public lecturer Professor Macdonald was well known. He could draw audiences where others would fail. It might be thought that such lectures as "A Talk on Time," "Our Celestial Neighbors," "Weather and Wiggins," and "A Trip to Jupiter" could not be couched in language adapted to an ordinary assembly. But not so. He was understood by all his hearers. His racy manner, clear-cut sentences, odd phrases, and quaint illustrations delighted everybody.

His hospitality, kindness, and gratitude for any slight service rendered him are too well known for me to dwell upon. In the class room and in his public and private capacity he will be greatly missed. His influence, however, will continue, and no Dalhousian now living will ever think of his college days without associating in his thoughts the name of Professor Charles Macdonald.

Alumnus.

A STRIKING TRIBUTE.

Extract from Sermon Preached in St. Matthew's Church on the 17th of March, 1901, by Rev. Dr. Pollok.

"Our thoughts have been turned to such topics as these by the sad and sudden removal from this world and from this congregation of one of our oldest, best and most distinguished members—one who has been a member of it for thirty-eight years—the longest part of a lifetime. It must be admitted to be the best possible sign of the excellence of any man's character, that those who know him best honor and love him most. Though Prof. Macdonald did not support every scheme of our Church or he claimed the right of judging for himself as to what he *would* support and what he would *not* support, a discrimination allowed to all our members, he always stood firmly by this congregation. Many of you must remember his calm, didactic, carefully reasoned, admirably expressed, and gracefully enunciated discourses. In all that adorns such a place as this he was a master. On many occasions his lectures instructed and delighted large audiences in this city and throughout the Province. The small number of Halifax citizens, people or preachers, or practitioners, and the members of this congregation who were present at his funeral were privileged to see how tenderly he was beloved and how deeply he was lamented by his brother professors and by the students for whose sake he might be said, in his zeal for his work, to have sacrificed his life. Even within that narrowed circle there is a narrower circle still of intimate friends, who alone can bear full and adequate testimony to his keen sense of justice, his integrity, his generosity, his kindness, his considerateness for all with whom he had dealings and his hatred

of all that was mean and dishonorable. His views of the Christian Religion were his own—for he was of most independent mind and refused to believe in the lights and leading of any reason but his own. But the worst kind of Christians are the indifferent—those who have a name to live and are dead : and anyone who chose to examine *his* bible and Greek Testament which lay beside him in his study, as I have done, will see that he did not belong to that class. I doubt if there are any such much used bibles in Halifax to-day as those were by one who knew how to use them.

It was a grief to some of us that, from the first moment when his disease took a serious or fatal character, he was unconscious—perhaps a mercy to him—though a discouragement to us. A few parting words would have been treasured up and long remembered. He fought his life battle up to the last moment. There was no waiting season between his work and his rest. He marched on right up to the gates of death. His feet just touched the threshold of its gloomy portals ere the doors opened to receive him. Between five and six days after he had taught two hours in his class, his bright and gifted spirit left the body as a "worn out fether that the soul had idly thrown away." So that he was truly a soldier that fell in the thick of the fight in the field of battle. For there are other battles than those which are "with confused noise and garments rolled in blood." Indeed all who live a courageous and honest life must fight a good fight. The apostle calls his own life a battle and himself a soldier when he says "'I have fought a good fight.'"

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A GREAT personality has passed out of the life of this University. For eight and thirty years, Professor Macdonald has been the central figure in Dalhousie. From the re-organization in 1863 to the new century, successive generations of students felt the warmth of his kindly humanity, and grew up as he fashioned them.

He was a great teacher. He was more than a great teacher of mathematics ; he was a maker of men. To his students he imparted that deep interest in humane letters and in the higher learning that was characteristic of himself. He was great in the sense that Young of Toronto and Masson of Edinburgh were great.

It is difficult to point out wherein his power lay ; but of the fact there is no doubt. Every student that passed through his classes felt it, and very many of them were recognized as men who had been under a great teacher. We may point to his brilliant powers of exposition, to his daring imagination, to his graphic phrases, to his thoroughness, to his hatred of cant, to his large heartedness, and say that in all these he was great. That is true ; but there was something more—something that could not be defined, but was felt by every one. It was the man

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He was of that older generation of teachers — the ornaments of their age and the despair of their successors. These men of unique personality and of great intellectual powers impressed their likeness upon the young men who studied under them. They communicated something of their spirit to their students.

To us he was more than a great university figure — a strong power in university life. We felt that his interest in us was that of a father, and that it was for us that he lived and worked. He held our affections for we knew that we held a secure place in his.

The sight of that portly figure clad in grey, the sound of the hearty greeting are gone ; but the memory of his affection for his students will not soon fade away.

“Oh true of heart, of spirit gay
Thy faults, where not already gone
From memory, prolong their stay
For charity's sweet sake above.”

“Such solace find we for our loss ;
And what beyond this thought we crave
Comes in the promise from the Cross
Shining upon thy happy grave.”

DEATH OF PROFESSOR MACDONALD.

Halifax (Nova Scotia) papers to hand announce the death of the Rev. Charles Macdonald, Professor of Mathematics at Dalhousie College, Halifax, which took place on the 11th inst. A native of Old Aberdeen, he was born in 1828, and was educated at Aberdeen University. He was referred to by the chairman at a recent University Club dinner in London as being not only the most brilliant scholar of his year, but the most brilliant scholar of his time. Subsequently studying divinity, he became a licentiate of the Church of Scotland, and occasionally preached in Aberdeen churches: but eventually Mr. Macdonald chose an educational career. In the end of 1863 he accepted the invitation of the Church of Scotland in Nova Scotia to become Professor of Mathematics at Dalhousie College, Halifax, where the Presbyterians then maintained three Chairs. Professor Macdonald's career at Dalhousie College—which had continued for 38 years—had been an exceedingly successful one. The "Halifax Herald" says:—"As a teacher of mathematics, he stood in the front rank." "Frequently, in years gone by," adds the "Halifax Herald." "Professor Macdonald occupied pulpits in this city, delighting his hearers, though occasionally, perhaps, giving them opportunity to discuss his complete orthodoxy. As a platform lecturer he was brilliant, no man addressing Halifax audiences having greater powers to attract than he."—Edinburgh Scotsman.

THE FUNERAL.

The fourteenth day of March, 1901, will always be held in memory by Dalhousians—graduate and undergraduate,—for on that day was consigned to the ground all that remained of one whose name is, and ever must be indissolubly linked with the history of Dalhousie University. For more than a generation Professor Macdonald had been "Guide, Philosopher, and Friend" to succeeding classes of Dalhousie students; and now had come the time to pay a last loving tribute to the departed. Simple, but exceedingly impressive was the service held in the main corridor of the college. At the foot of the stairway the casket reposed on a catafalque surrounded by the twelve capped and gowned students who acted as pall-bearers. On the casket was a single floral wreath "From the Students." On the stairway, which, with the corridor, was effectively draped in black, were the members of the Faculties, the governors, Pine Hill Professors, and city clergy. All the remaining space was occupied by the students and friends of the dead Professor.

The following was the order of the service:—

Hymn—"Lead, Kindly Light."

Scripture Reading—Psalm XC; 1 Thess. IV, 13-18. Rev. W. J. Armitage, St. Paul's.

Prayer—Rev. T. Fowler, St. Matthew's.

Addresses—Rev. Pres. Forrest, D. D.; Rev. Principal Pollok, D. D.

Hymn—"Now the Laborer's Task is O'er."

Benediction by Rev. Dr. Saunders.

Dr. Forrest's address was short and touching. He said:—"Friends and fellow workers of Dalhousie:

"We have assembled to-day under circumstances unusually sad, to pay the last tribute of respect to one whom we dearly loved and whose departure will make a blank which it will be very difficult to fill.

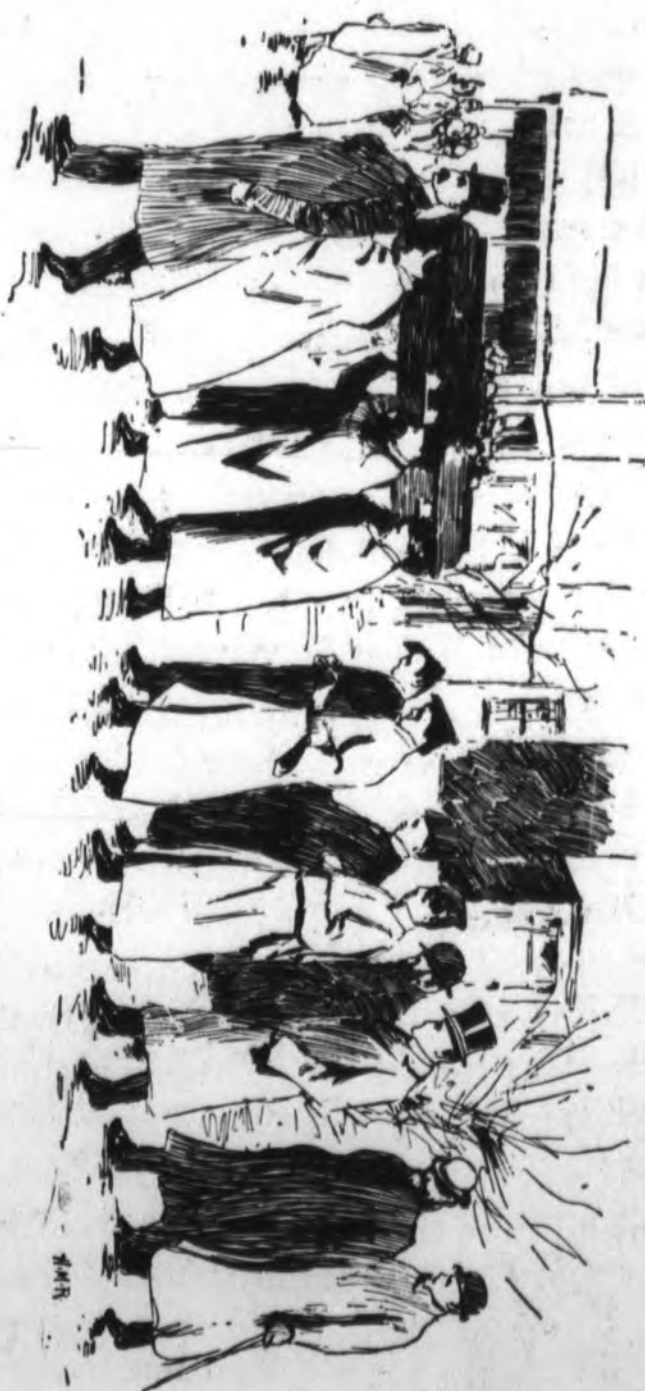
"Dalhousie College was reorganized and reopened in 1863. Of the six men who formed the first staff of his professors the last has now left us. Professor Johnson after long years of faithful service retired, but the others have all crossed the river into the good land which is beyond.

"Professor Macdonald came to this country a young man with a brilliant university record, and after having made for himself a name as a most successful teacher. From the time of his arrival till the present he has been known as a leader in the educational work of the country. He did not take much part in public affairs outside of his own special calling and, yet I doubt if there are any who have left a deeper impress on the whole community. If the talent entrusted to him was the talent of mathematical ability he did not roll it up in a napkin, but used it with such untiring diligence and conscientious faithfulness as well as marked intelligence, that his talent became ten talents. Seldom has a more successful teacher occupied a professor's chair.

Under his inspiring teaching the bright student was stimulated to do his utmost and even the men who had little aptitude for mathematical study were filled with respect for the teacher and his subject. It was a rare thing for any one to pass from his class-room without having received intellectual stimulus apart altogether from the actual mathematical knowledge which he derived. Hundreds of students have enjoyed the privilege of his teaching and all over the Maritime Provinces his influence is to-day clearly seen.

"Nor was his range of view narrow or one-sided. I think I may fearlessly say that he has had no superior in his own department in Canada, but his views of education were broad and liberal. We have had no more earnest advocate of classical study, and no one attached more importance to the study of English. He was a broad minded educationalist who never sought to put one branch of study in competition with another.

Borne on the Shoulders of His Students.



"His class room was never dull. His good humour and racy wit made everything bright. When the pain and grief of his departure have passed away our recollections of him will be sunny and bright. He was incapable of a mean act, the very soul of outspoken honesty. And whether you agreed with him or not you never could doubt that he honestly believed what he said and taught. His students will cherish his memory with filial affection and his brother professors will miss him during the whole remaining part of the journey.

"Students you will hear his familiar voice no more ; but "he being dead yet speaketh.' From the open coffin I almost here the voice. 'Whatsoever thy hand findeth to do, do it with thy might.'

"Brothers of the Senate he speaks to us ; 'Be ye faithful unto death.' "

Dr. Forrest was followed by Dr. Pollok, the closest personal friend of the deceased, who in a few words, his voice the while almost breaking down with emotion, paid a glowing tribute to the ability, generosity, integrity and worth of his departed friend.

After the benediction was pronounced by Rev. Dr. Saunders, a last look was taken at the remains, and the procession started for Camp Hill Cemetery, the bier being carried on the shoulders of the pall-bearers, six at a time. The students preceded the bier, then came the mourners, professors, graduates and friends. A little before four o'clock the cortege reached the cemetery. Brief services were held at the grave, being conducted by Rev. Thos. Fowler and Rev. Dr. MacMillan. All that was mortal of Professor Charles Macdonald was laid in the earth, and the faculties, students, and friends who had assembled to perform the last sad duty turned from the solemn city of the dead to the mourning city of the living.

D. E. Ross, '01, R. Bohner, '01, E. R. Faulkner, B. A., Med. '01, J. Ross Millar, M. A., Med. '02, L. H. Cumming, Law '01, J. Malcolm '03, E. M. Flemming, '02, M. A. Lindsay, '02, N. Macdonald, Med. '04, and James Corston, B. A., Med. '02, M. J. McPherson, '01 and G. H. Sedgewick, '02, acted as pall-bearers.