

J. G. Macpherson

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DEVELOPMENT THEORY.

J. J. C.

ONE of the most plausible theories which have been framed to account for the origin of the universe is that known as the development theory. It can scarcely be said to be of recent formation, as it is known to have been held by the Greek philosopher, Democritus who lived as early as the year 460 B. C. Recent discoveries of science, however, and the ardour which the advocates of the theory have displayed in their search for facts to substantiate it, have contributed to give it a plausibility which it could not claim in the days of Democritus. It is, in scientific circles still a subject of animated discussion; the enthusiasm of its advocates is not likely to subside, and the prospect of speedy success is, in their opinion, almost a matter of certainty. Nor is the interest which attaches to its discussion, confined exclusively to scientific circles: it has gone far beyond them, it has awakened an echo in the intelligent community at large; the results which will flow from its complete establishment, should such be realized, are apprehended by many, as likely to be far-reaching, and prejudicial to the interests of religious truth; by others—not at all anti-Christian, as eminently conducive to its fuller illustration. We propose to consider here. (1) what is the theory? (2) Some of the evidence in its favor, and (3) some of the objections against it.

I.—The germs of creation, according to this theory, consist of small monads to which life is imparted, according to some, by galvanic agency, while others hold that the living principal is inherent in them. These monads possess a self developing power, they grow into higher forms of life, there is a gradual advance from the simple to the complex, the small monads form the first link in the chain, man forms the last, between these extreme links lie intermediate forms of life, which become higher and more complex as you descend the chain until the highest complexing is reached in man, fish for instance, are succeeded by, and develop reptiles, reptiles develop mammalia, mammalia, a higher form of existence, from which, in turn, man is developed. This development of a higher from a lower takes place, by a "law of Natural selection," as it is termed, or otherwise expressed, the law of the "survival of the fittest." By this law is meant, that every variation of a kind tending to preserve the life of the individual possessing it, is preserved, and transmitted to its posterity, which now, is increased and intensified until it reaches the "maximum degree of utility." Individuals who do not possess this favourable variation so necessary to their preservation, die off; the fittest to live, alone live, the least fit, die. Take an instance. The giraffe species of South Africa, it is well known, have long necks. This, according to our theory, is a favourable variation, produced by the force of eternal circumstances, and tending to preserve the life of the species. That such a variation was essential to life is shown by the circumstance that the country which the giraffe inhabits has been subject to frequent droughts, vegetation was thus destroyed, the only means of subsistence left was obtained from trees. These individuals of the species who could reach the fruit which dangled on their branches, were preserved, those who could not rapidly died off. The oft-repeated effort to reach the branches, upon the doing of which life depended, resulted in a lengthening of the neck. This peculiarity was transmitted to at least, some of their posterity, who, like their parents were also preserved, which those, not inheriting it, died off. In this generation, the neck became more extended by repeated efforts, as before, to obtain sustenance, and thus was gradually acquired that length of neck by which we know the species to be characterized. Again, a family of butterflies is known to exist in South America, of a very bright colour, and exceedingly slow in flight, on this account, they are liable to be seized as prey by birds, reptiles and other insects, which swarm that country. They are known to have a very strong and disagreeable smell, so much so that if touched, some time and trouble is required to remove the stain produced. Now, what illustrates the theory is, that the colour and form of these butterflies is imitated by others liable, as they are, to become a prey to birds and other insects. This imitation deceives the enemy, and secures their preservation, it makes them appear as offensive to their enemy as are those whom they imitate, and they escape untouched. This peculiarity saves them from speedy death, and being transmitted to their posterity becomes to them also, an effective source of protection. In a similar manner was developed the webbed foot of

the duck. In the act of swimming, the webbed foot being found necessary to assume swiftness, and conducive to comfort, by the very effect of swimming, became webbed, was transmitted and so became characteristic of the species.

II.—Let us consider some of the evidence in favour of the theory. The examples which we have just given as illustrations of what the theory is, may be regarded to some extent as evidence of its truthfulness. The theory at least, offers an explanation of the causes referred to, and in so far as it does so satisfactorily converts them into evidence, and recommends itself to our acceptance. There are, it cannot be denied, many other cases which it offers a plausible explanation. The more facts to the explanation of which, a theory proves adequate, the more is the evidence in its favor increased. Facts are the pillows upon which a true theory must rest, unsupported by facts, it is like the "baseless fabric of a vision," which mocks the dreamer's eye, or like a building which, wanting a foundation, totters to the ground. But this theory is more than a dreamer's vision, it rests upon a foundation neither sandy nor solid, although lacking that ample breadth which its warmest admirers claim for it. It has some facts to rest upon, it has an air reality about it, it has the form and the parts of a building, although it be unroofed, unfinished and unfit to live in, it explains some facts, although not all, it is supported by some evidence, although it is inconclusive, it at least commands our attention, although it cannot compel our belief. What then are the facts which it seems to explain?

(1). The geographical distribution of animals and plants is explained by it. For instance, in Australia there have been found the remains of creatures closely allied to Kangaroos and other similar animals, and which are found no where else. So to in South America have been found remains of sloths and armadillos bearing a closer resemblance to the existing species in that country, than to any other. Again, if certain islands exhibit evidence of long separation by the depth of the intervening waters, a corresponding difference is seen in the animals inhabiting the island. But if there is evidence that the separation is of recent date, the difference observable in the animals, is proportionately smaller. This would naturally result from the admission as demanded by the theory that the present animals slightly or greatly differing, as the case may be, one descendants of a common stock, who inhabited the islands before a separation took place.

(2). "Rudimentary structures" are explained by the theory. By these are meant parts or organs found in some animals in a very undeveloped state, but which are represented in others by similar organs completely developed. The foetal teeth of whales and of the front part of the jaw of ruminating quadrupeds. These teeth as they exist in their undeveloped form are perfectly useless, and are not succeeded by any other during the life of the animal. The Apteryn—a New Zealand bird—is a very good example. Its name is indicative of the structure referred to; its wing is very slightly developed, and serves no purpose in securing flight, the bird being quite incapable of it, yet the rudimentary wing contains all the lines which are found, in a more developed form, in the ordinary wings of all birds of flight. The explanation is, that those useless rudimentary bones did once serve a purpose, and were once useful to the animals, but some change in his external surroundings rendered them unimportant, their service was dispersed with, they were but seldom brought into use, and in consequence, they gradually became diminished in size, and importance, until they assumed the form in which they now, are seen.

(3). The facts which "homology" presents are amenable to a similar explanation. This term is used to express the real resemblance existing between animals of apparently different form and habit. The theory maintains that the differences are not real, but only apparent. There is a sameness of structure underlying external variety. For example, man, the horse, the whale, and the bat, have organs framed on the same type, although varying in size and complexity; the arm in man, the fore-leg in the horse, and the paddle in the whale, and the wing in the bat are but different manifestations of the same type. This is explained by the fact of descent from a common ancestor, the external circumstances in which the animals were, at different times, placed, causing corresponding modifications in the organs used. The remarkable resemblance existing between animals of various species, during the early stages of growth, receives a similar explanation. This, it is

alleged, is the natural result of descent from a common ancestor.

(4.) Mimicry receives a satisfactory explanation by this theory. By this is meant the close but superficial resemblance which one animal or plant bears to another, and sometimes very different animals or plants. An instance of this has already been given in the case of a family of South American butterflies whose form and colour is closely imitated by other butterflies of very different families for purposes of self-preservation; the "walking leaf insect" is another instance. It is known to assume the form and appearance of the leaf from which it receives its name, for a similar purpose.

These assumed resemblances, assumed, as has been said, as a means of protection from other animals to whom the assumed form and colour is distasteful, are increased in their descendants, and thus serve the same purpose still more effectively. Such are some of the most important facts which this theory serves to explain. That it does so much must be admitted by its most inveterate opponents. It is our duty to estimate the theory at its true value, and to give it credit for what it does do, it may not do enough, the evidence may be inconclusive, and insufficient to support the imposing edifice which its supporters have erected, the foundation may lack breath, the building may be top-heavy, there may not be a sufficient number of facts to warrant us in accepting the theory as true, but yet, it is our bounden duty to open our eyes to the facts which it professes to explain, and while marking its deficiencies, with candour to acknowledge the facts for the explanation of which it is adequate.

III.—Let us now consider the objections to which the theory is liable.

(1.) Apparent objections.—It is alleged that the theory removes God away from the laws which he originally imposed upon matter and according to which he meant that the world should develop itself, without any subsequent interposition on His part. Any subsequent interposition, it is asserted would be unnecessary. The minute monads once formed, the law according to which God decreed that they should develop themselves into the varied forms of existence being imposed on them, what necessity would there be for further interposition. Nature would now develop herself. Species after species of plants and animals, in a gradually ascending scale, would succeed each other of their own accord,—the chaos would evolve itself a cosmos of itself; the machine once set in motion would move on, no longer needing the presence of the machinist. Deity withdraws from the scene and becomes a disinterested spectator. He sits aloft in Epicurean ease and idly watches the wheels of time roll their everlasting rounds. Thus, it is alleged, the law-maker is merged in the laws God is lost sight of,—Law is deified; the Creator is dethroned, and a shadowy abstraction named Law, attired in the emblems of royalty sits on the throne of the universe. Now this objection appears to us apparent only; it vanishes before the wand of scrutiny like the mist before the rising sun. This will appear evident upon a careful consideration of what is really involved in the objection. It assumes that the original imposition by an all-wise creator of certain laws upon matter according to which it was to develop itself from a few tiny monads into the varied and beautiful panorama of existence which now greets the eye of the beholder, implies a stolid indifference on His part to the operation of those laws, and to the destiny of the universe thereby evolved. Is not the assumption unwarrantable? Is not the implication, in the highest degree, unjust? Is there a particle of evidence to lead us to suppose that the creator who made laws so wonderful, and so admirably adapted, as we must believe, to the welfare of the countless millions of existences whom He foresaw would in the roll of ages start into being, should, after he had formed the design of creating a universe which should reflect with undimmed lustre the glory of his wisdom, power and goodness after the first act of creative power, after the germs in whose womb lay a slumbering universe, were created, forgetful alike of its career and its destiny, and stolidly indifferent to the operation of laws which had their origin in the depths of His infinite wisdom, abandon the scene, and no longer manifest any interest in its progress? We cannot entertain the idea for a moment. It is repugnant to every just conception of the Divine character; it is repugnant to our reason; it is repugnant to all the suggestions of analogy. The machinist, after bringing all his skill and ingenuity to the construction of his machine, ever after manifests lively interest in its operation, and inquires for its success with eager solicitude. It bears the impress of his skill; it was wrought out in the heated furnace of his mind; it was conceived in his brain; it was fashioned by his hands; he cannot but watch it with interest, and inquire after its working with solicitude. Much more, may we not reasonably suppose, will the Great Architect manifest an interest in and watch the developing energies of a universe which presents to us such striking illustrations of His wisdom, power and beneficence? The very idea of a law again suggests an energy or power without which it could not operate. Law dis severed from power is a mere abstraction, helpless as it is meaningless. It cannot generate motion; it cannot originate force; it cannot accomplish any result. If it is like a body from which the life has departed; it is dumb and powerless as a statue. To make it operative the breath of Deity must animate it. His spirit must enter it. His all sustaining energy must pervade and circulate through it. Eliminate God from the idea of law, and that law ceases to operate, the forces of Nature become powerless, the wheels of time

stand still, and the universe dissolves into the chaos from which it originated. The very operation of law necessarily implies the constant superintending presence of God. He works in and through law, and it becomes operative solely by virtue of His indwelling presence.

Again, that the theory is not necessarily liable to this objection may be inferred from the circumstance that many of the early Fathers of the Church held the theory, while at the same time, holding all that the Scriptures teach concerning the superintending presence of God. It is ascertained upon the best authority, that St. Augustine, and coming from that down, St. Thomas Aquinas, and Guarez held the *derivative* origin of all organic forms, which is all that is contended for by the Development theory.

(2.) The inconsistency existing between the theory and a passage in Genesis, is alleged as an objection. The passage referred to reads thus, "God made man from the dust of the earth, and breathed into his nostrils the breath of life." To a casual observer, this may appear an objection, but it disappears on a more careful study of the passage. A special creation is not affirmed here, or rather need not be. The passage need not be subjected to any undue straining, when we interpret "the dust of the earth" as the pre-existing material out of which man was developed. Subsequent to this development "God breathed into his nostrils the breath of life," then, and not till then, did man become a "living soul," then did he become possessed of something which raised him above all that had gone before him, then it was that he acquired that moral nature which divides him off from the whole animal creation to which, in all other respects, he is so closely allied. In so far as the development they maintain, that the soul like the body was developed from pre-existing material, this passage does really present an objection, for here the soul is spoken of as a special creation conferred upon man by the hand of interposing Deity. It is quite possible we admit to conceive the development of a soul characterized as that of man is from the pre-existing principle of life which animated the then existing creatures; for the mental and moral faculties which constitute in the main, our idea of a soul, may have existed in pre-existing animals in a latent state, only awaiting further development to manifest their presence. But it may be argued that the difference between the immaterial principle of that inferior order of creatures preceding the advent of that of which Adam was the original representative, and the soul which characterizes it, is too great to allow us to suppose that the one was developed from the other. It is to confound intelligence with mere instinct. This objection, will be, to a considerable degree, removed, if we consider the wide difference existing between the child and the man into which the former nevertheless develops. We would scarcely think it possible that the imperfect faculties of the child, the faint glimmer of reason, the imperceptible buddings of conscience, or of that only which renders such feasible, the feeble memory, the dim foreshadowing of a mental and moral nature which as yet has no existence, could in a few years develop into the powerful reason, the vivid imagination, the retentive memory, the fine moral faculty, and all the strength and skill and majesty of the perfect man. Yet such is the case. Now the difference mentally and morally between Adam and the race of animals who proceeded him, and from whom, we assume, he sprung, might not have been greater than that between the child and the man; if not, the development of one from the other is quite possible to conceive. A possible conception, however, by no means implies a true one. Admitting such to be possible, the objection on the ground of inconsistency with the passage we have quoted still remains. "And God breathed into his nostrils the breath of life, and he became a living soul." The obvious meaning of this passage appear to be that God by a direct act of interposition, breathed into him the breath of life, by virtue of which he became the possessor of a soul. Any other interpretation strains the passage. The first clause, as we have seen, may without undue straining, be interpreted so as to be quite consistent with the theory of the decorative origin of his body, but the last clause obviously gives to the soul a *special* origin, and in doing so contradicts the theory of development.

We pass on to two other *real* objections urged against the theory.

(1.) The science of Geology acquaints us with some facts which will not harmonize with the theory. It has been ascertained for instance that while in the lower strata there are mollusca, shells &c., it yet contains fish of a very high order. There is, again, the absence of transitional forms, "all the most marked groups" in the words of Mirart, "bats, pterodactyls, chelonians, ichthyosauria, anoura, etc., appear at once upon the scene." Geology it is admitted bears ample testimony to the fact of progression, but not of development. Again, the theory demands such a length of time for the development of the different species as will not accord with the calculations of geologists. The result of Sir William Thomson's investigations as to the duration of life upon our earth is that it must be limited to a period of less than one hundred million years. The question then arises: Is this a sufficient length of time to allow of the development of all organic forms? Many eminent naturalists think that it is not. Supposing, as has been supposed, that it would take five hundred years to form the greyhound from his "wolf-like ancestor," is it unreasonable to suppose, it is asked, that it would take more than a million times as long to develop an elephant from a tad-pole like fish? This sup-

position, and a reasonable one it is, would give us five hundred millions of years, excluding altogether other organic forms—a period far exceeding that which Geology computes as the whole duration of life on our globe.

(2). There are many other observed facts for the explanation of which the theory is inadequate. The fact of the remarkable length of neck in the Giraffe already alluded to, which the theory professes to explain, will, upon a closer examination, be found to present difficulties which it fails to obviate. If the remarkable length of neck in that animal can be accounted for in manner stated, viz., by the destruction of every means of support consequent upon a severe drought, and by the animal being thus forced to extend his neck to pluck food from the trees, we have a right to expect many forms of the neck of the Giraffe. But they are not to be found. Their absence renders the explanations offered by the theory incomplete and unsatisfactory. It is true that there are other ways in which the same object might be served.

A REVIEW OF GAELIC LITERATURE.

IV.

OUR readers are already familiar with the history of the misfortunes that overtook the Stuart family; and perhaps most of them, living in the nineteenth century under a peaceful and Protestant sovereign, by no means regret these calamities. But it were wrong in us if we sought to cast dishonour on those who advocated the cause of that unlucky dynasty, because they, in the seventeenth and eighteenth centuries, did not see with a prophetic eye the happy results of the changes they witnessed, as we now see them. They undoubtedly thought, because the Stuart line had the right to reign, that no other race of sovereign could govern the country as well as they could.

Those who formerly were condemned to such cruel punishment for "makand themselves fuiles and were bairdes," now appeared in the foremost rank of the advocates of the right of the Stuarts of Appin. Iain Lòm (John the Beardless) is the first of these political poets that deserves notice. The chief end of his life was revenge, and his contemporary fellow Jacobites looked upon him as a *God-send*, created for the time in which he lived and worthy the Being who gave him. His satire is of the sharpest and most cunning character, and is not unfrequently repugnant to religion and humanity. His poems are not at all of a sweet strain, nor do we hold that they were always sung in the cause of right and with a just regard to truth. But they are powerful and zealous: some exhibit a pathos never surpassed; some are unbearably wild; while a third class are descriptive and form a key to many of the ancient Highland customs and superstitions. Nothing that ever we have seen is so near the Satanic as *Tobar nan Ceann* and his *sony about King William and Queen Mary*; yet allowances must be made in view of the times he lived in. He was instigated by priests and warlike chieftains from without, and poetic genius from within.

Interesting anecdotes are told of him, representing him as a poet, a warrior and a coward. He evinced singular political talent. While pursuing the Clan-Dughall for the murder of his kinsmen (the heirs of the McDonald of Keppoch), he sought assistance from the powerful Glengarry. The latter refused to grant any because of the strength of the antagonist he had to deal with. To be revenged on Glengarry and to gain the aid of a braver chief, Iain Lòm invoked his muse, and sang the praises of Sir Alexander McDonald. After the song had gone the round of the district, he applied to Sir Alexander. Of course he was successful, for who would resist such a courtier? In his after-career he was an open enemy to Argyle. The latter, knowing well the power of his muse, offered a considerable reward for his head. Iain, knowing as well the sacred character of his office, presented himself forthwith at the castle of Inverary and demanded the reward. He was received courteously and was led through the castle. On entering a hall were hung the result of a week's hunting, the marquis enquired, "Have you ever seen so many muir-fowl in one place?" "I have," replied Iain. "Where?" demanded his Grace. "At Inverlochy," replied the undaunted bard, alluding to the battle at that place which proved so disastrous to the followers of Argyle. Ah! John," said his Grace will you never cease gnawing the Campbells?" "I am sorry," added the other, "that I cannot swallow them." And yet Iain was a coward. Although he was the means of causing many to join battle, he himself never took part in an engagement. He died at an advanced age in 1710.

Silas Nighean Mhic Raonuill (a) (Julian McDonald) sung some very clever pieces between the reign of Charles II. and that of George I. She calls the latter "the King of Pigs and Whigs." Her elegy on Alexander of Glengarry is truly beautiful and has served as a model for many Gaelic poems. She was a Roman Catholic and wrote some hymns still in use. Niall McMhuirich was family bard and historian to the Clanronald about the same time. The few pieces of his in our possession give but a faint idea of the man; yet we learn from them that he was an accomplished Gaelic scholar, a true Jacobite, and a poet every way worthy of the country that bore him. John McDonald (otherwise Iain Dubh Mac Iain 'ic Ailein) was born about the year 1665. He was a well educated gentleman of the Maer family. His works are

distinguished by energy and elegance; but few of them have been preserved owing to a custom then prevalent among Highlanders of committing poems to memory but seldom writing them.

Alexander McDonald (Alasdair Mac Mhaighstir Alasdair) is the next Jacobite songster who stood by the royal and brave against the power of the "wee German lairdie." His life was full of changes; brought up in the Episcopal Church, he spent many years as a parochial schoolmaster and Presbyterian elder; but subsequently he joined the army of the Pretender and became a zealous Roman Catholic. It is no exaggeration to say that he is the best Jacobite poet that has ever sung. He has in his "*Birlinn Chlainn Raonuill*" presented us with a specimen of poetry which, for subject, matter, language, harmony and strength is almost unequalled in any language." (b) It was only his mother tongue that defended him from capital punishment, for had the law agents of the crown been able to read his poems when they were published in 1751, they would assuredly have visited him with deserved vengeance. Many of his most fiery pieces are written in an allegorical style, making "bonnie Prince Charlie" a lovely young damsel bearing the name of Morag. In his *Oran Luaghe* she has gone over the seas and is invoked to return with a party of females (French soldiers to dress the red cloth (the English soldiers) and the other maidens (the Highland clans) are exhorted to assist. The poet introduces himself as one who has travelled with Morag over lands known and unknown, and is still willing to follow her whither she leadeth. The allegory is kept up with elegance and energy.

That he might outdo all rivals, McDonald frequently chose subjects which would never excite another poet. The Sugar Brook was a small streamlet that separated his farm from that of his neighbour. This ignoble subject he span into an animated song which has ever been admitted by all good judges to exceed anything in Gaelic or English descriptive poetry. If we mistake not, we have seen something like it in the 'Canterbury Tales.' The bard walks abroad on a summer morning and sees the dew glittering on every flower, hanging from every flower, hanging from every leaf—hears the birds warbling their love-songs—sees the cattle grazing, the bees collecting their sweet treasures, the fishes leaping out of the water—all rejoicing in the luxury of summer. The very rivulet seems to partake of the common joy and murmurs sweeter music. The cows low aloud and the calves answer responsive. The valley is bespangled with flowers of richer hues than the most costly gems. The poet selects the most natural, lively, and agreeable images in the rural scene—the kids, the horses, and the ships of the sea are made to perform their part in this exquisite production. c.

We have now followed the Jacobite poets through the second period of Gaelic literature—from Iain Lòm to Rob Donn—let us therefore return and review other authors of the same period. We need not enquire for prose writers, for—other than the MSS. we noticed in our last article and a few family records of little note—prose works do not appear until the beginning of the present century.

Mary McLeod (Mairi Nighean Alasdair Ruaidh) is the earliest poetess whose name has descended through the gloom of the middle ages. Her poems appear to us as the most original in thought and form that have ever been produced. But we may find an explanation of this somewhere. During a period of one thousand years before her birth, the bards of Scotland had been employed as family historians and poets, as they used to be before that time; yet we only possess about half a dozen of their compositions. So we know not what were their ideas or what the form of verse which their thoughts took when expressed in language. Yet in stating these things we do not detract from the merit so justly ascribed to Mary McLeod. The authoress of *The Halls where McLeod used to Dwell* must have been a gifted woman. Her manner is simple and easy; her language and diction are also easy and unaffected.

She was born in 1569 and lived 105 years. "In her old days she generally carried about with her a silve-headed cane, and was much given to gossip, snuff and whiskey." d.

We have no other names of note in this period except those of the Claisair Dall (the Blind Harper) and the Piobaire Dall (the Blind Piper). These were more celebrated for their skill in music than in poetry. We owe not a few of our beautiful strathspeys and Scotch reels to their genius.

G. L. G.

a. There are so many bards of the same Christian name and patronymic that we have been forced to give the Gaelic names for fear of confounding those of better talent with some others, their inferiors.

b. Reid's Biblioth. Scoto-Celtica.

c. See Sàr-ob. nam Bàrd Gelach.

d. See Sàr-ob. nam Bàrd Gelach.

SCENE, Classroom No. 2; time, 9 to 10 A. M.; April 10th. Senior Class for the last time reading Latin within the precincts of Dalhousie. As the last reader stops, a breathless silence steals over the room. Onions and handkerchiefs, the cause and cure of briny tears are in readiness. In eager expectation the class awaits the touching farewell and parting blessing. A sound breaks upon the enchanted air. "That'll do, gentlemen, for to-day; if any wish explanations of passages they can come up singly." Never will the class of '73 forget the valedictory heard in Class Room No. 2.

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CONTENTS.

Development Theory	73
A Review of Gaelic Literature	75
Editorial	76
Convocation	76
Alumni Association	77
Valedictory	77
Review	78
Correspondence	79
Personals	79
Exchanges	79

WITH this, the tenth and last number of the fifth volume of the GAZETTE, we have arrived at the close of the tenth Winter Session of Dalhousie College. During the past six months our Alma Mater has displayed rapid growth in many ways. She has seen the establishment of separate Honour Courses in all branches of study. Co-operating with the GAZETTE, she has furnished her sons with a comfortable reading room, a vast improvement on the state of things. She has become more fruitful, having had during the past Session, one hundred and five striplings, of whom she now sends forth full-fledged a round dozen. The dear old lady's granddaughter, THE GAZETTE, does not fall behind with regard to success. Her guardians, all unworthy though they be, have now placed a good nest egg in her purse, to be laid by for a rainy day, whereas in former years she was compelled, poor thing, to call upon her parents and proprietors, the children of old Alma Mater, to pay her many debts. May her purse be ever full. So well has the child behaved herself that her larger relations of the city press have given her considerable praise; and with all other grandchildren of *Almae Matres* she has buried the hatchet, although the youngster called "Leaflets of Thought" has had her little feelings hurt and feels bad about it. In resigning our guardianship of this promising child, we hope that she may prove the source of as much pleasure and profit to our successors as to ourselves.

CONVOCAION.

Convocation on Wednesday the 30th of April brought to a successful close our tenth Winter Session. The meeting was held in Argyle Hall and began at 3½ P. M. At 3 o'clock Governors, Professors, Graduates and Students of both faculties met in the College and marched in procession to the place of meeting. On entering they were greeted by a sea of fair faces surrounding a block of empty benches in the middle of the room. Ladies were decidedly in the majority, showing the interest taken in Dalhousie by the fair sex of Halifax.—Would that their Fathers and Brothers who rule the money-box, followed in their footsteps! The Students and Graduating Class having filled the central space, and the Powers that be being seated on the platform, the exercises began. The Principal opened with prayer, followed by a brief address to the assembly, expressing his gratification at the manner in which the hall was filled. He then gave a short account of the progress of the College. During the session just past, the number of students registered was 106, of which number 26 were in the Medical Faculty. Of the remaining 80, 24 were general students, 56 being Undergraduates. The General Pass List was then read by the Secretary of the Senate, Professor McDonald. We give this list below. In the fourth year twelve passed all the examinations; in the third year, eight; in the second year, eleven; and in the first, thirteen. Certificates of merit of

the first and second class were then presented. This was followed by the distribution of class prizes. Here a new feature was introduced. In each year, students who obtained money prizes were debarred from obtaining the regular class prizes. Thus in some cases the men who took Class Prizes were not Prizemen at all, but those second, and in some cases third on the list.

Then were presented in order.—The prize for Elocution of the value of \$20 given by Sir William Young, open to all students of the first and second years. Colonel Laurie's prize for the best essay on "Immigration, as adapted to the requirements of Nova Scotia." The Alumni prize of \$20 for the best average in the first year. The Waverly Prize of \$60 for 2 years awarded for the highest average in the 2nd year (Mathematics to have the preponderance in Calculation).

Twelve Seniors then stood up to receive their degree of B. A.—Alexander H. McKay, David F. Creelman, Charles DeWolf MacDonald, John M. Allan, Charles W. Bryden, William Cameron, Kenneth Duff, John Hunter, James A. McKeen, William Ross, James Millen Robinson, Melville Logan. A special Honor Certificate of the second class in Mathematics was awarded to A. H. McKay. Mr. McKay is the first who has graduated from Dalhousie with Honours. Having received their degrees, the newly made Baccalaurei were then addressed by the Principal who urged them to pursue their studies after leaving their Alma Mater, advising them as to the time and means of so doing. The Valedictory for the class was read by A. H. McKay. We say nothing in criticism of the Oration, but by printing it, leave it open to all critics.

Dr. A. P. Reid, Dean of the Medical Faculty, gave a brief introductory speech, rapidly reviewing the work of the Session in the Medical School and in feeling terms touching upon the death of Mr. Frederick Melchertson and the danger of meeting the same fate, to which all medical men and students are exposed. Dr. Gordon read the report. The attendance had increased, there having been twenty-six matriculated students in Medicine. The pass list was then read, and certificates and prizes presented. Addresses were delivered by Revs. C. B. Pitblado and G. M. Grant. Mr. Grant spoke strongly of the folly of small colleges in Nova Scotia, and of the want of a High School in the City of Halifax.

Prof. McDonald then announced the subject of the Essay for the Laurie Prize for 1874,—“Public Roads in Nova Scotia, on what principle can they be best made and maintained for the public interest?” The Principal pronounced the Benediction, and the meeting closed about 5 o'clock, P. M.

PASS LIST.—ARTS FACULTY.

4th Year:—J. M. Allan, C. W. Bryden, D. F. Creelman, William Cameron, Kenneth Duff, John Hunter, Melville Logan, Charles D. McDonald, A. H. McKay, J. A. McKeen, William Ross, J. Millen Robinson.

3rd Year:—D. Stiles Fraser, W. C. Herdman, D. McGregor, D. McLeod, R. G. Sinclair, H. Stramberg, J. McD. Oxley, J. C. Herdman.

2nd Year:—William Bearisto, J. R. Coffin, A. Gunn, L. H. Jordan, J. McDowall, John McLean, A. McLeod, George McMillan, J. C. Ross, W. B. Ross, W. A. Mills.

1st Year:—F. H. Bell, R. Logan, G. H. Fulton, Burgess McKittrick, James McLean, J. W. McLeod, Joseph S. Morton, J. Munro, Fred. W. O'Brien, B. F. Pearson, A. Purves, J. M. Stewart and J. C. Sutherland.

PASS LIST.—MEDICAL FACULTY.

Primary Examinations:—D. A. Campbell, William S. Muir, D. Chisholm, and D. R. C. McKay.

CERTIFICATES OF MERIT.

1st Class:—A. H. McKay, D. F. Creelman, James C. Herdman, William B. Ross, James Stewart, John McLeod, and Francis H. Bell.
2nd Class:—Charles D. McDonald and William Bearisto.

PRIZES.

CLASSICS.—4th Year, Charles McDonald; 3rd Year, James C. Herdman; 2nd Year, Prizeman Wm. Ross; but (according to new arrangement) prize given to George McMillan; 1st Year, 1st prize John McLeod, 2nd prize, Francis H. Bell.

MATHEMATICS, MIXED MATHEMATICS, AND EXPERIMENTAL PHYSICS.

4th Year, A. H. McKay; 3rd Year, Daniel L. Fraser; 2nd Year, Prizeman Wm. Bearisto, and second Wm. B. Ross, but (by new arrangement) prize given to A. Gunn, third on the list; 1st Year, 1st prize, George H. Fulton; 2nd prize, Burgess McKittrick, third on the list (by new arrangement).

ETHICS.—4th Year, David F. Creelman. METAPHYSICS.—3rd Year, James McD. Oxley; LOGIC AND PSYCHOLOGY, 2nd Year, Prizeman William Ross; prize given to George McMillan.

CHEMISTRY.—3rd Year, Walter S. Doull; 2nd Year, Prizemanⁿ William Bearisto but prize given (by new arrangement) to J. Robert Coffin.

RHETORIC.—1st Year, Prizeman James McG. Stewart, but, (by new arrangement) prize given to F. H. Bell.

HISTORY.—4th Year, A. H. McKay.

FRENCH—4th Year, David F. Creelman; 3rd Year, James McD. Oxley.

The Young Elocution Prize was gained by F. H. Archibald, Freshman.

The Waverley Prize was divided between William Bearisto and Wm. B. Ross.

The "Laurie" Essay Prize was awarded to David F. Creelman.

CERTIFICATES AND PRIZE MEDICAL FACULTY.

Certificates of Merit were awarded to Donald Chisholm, Duncan McKay, W. S. Muir, and D. A. Campbell.

Sir William Young's prizes for Practical Anatomy were thus awarded. SENIOR, 1st, Donald Chisholm; 2nd, R. Cox. JUNIOR, 1st, John Stewart; 2nd, R. Blanchard.

The "Neal" Prize was awarded to D. A. Campbell.

The prizes for best series of Clinical Reports in Medicine and Surgery were gained by William S. Muir and D. R. C. McKay.

The Prizes in OBSTETRICS were won by J. A. Meek and A. W. Lindsay.

Before closing our account of the Convocation we feel constrained to say something about the manner in which certificates and prizes were awarded this year. Never was greater injustice done and never was more dissatisfaction felt. The new arrangement, by which a student who receives a money prize is debarred from receiving the class prizes to which he is entitled, is considered not only unjust, but absurd, by all the students and graduates, and, as we have good reason to believe, by some of the professors. Our Principal, in his lectures on Political Economy, advocates the principle that every man should enjoy the fruit of his own labour, and yet he allows prizes to be taken away from the only men who really deserve them. Now the very intention of these money prizes is to give an *additional* reward to deserving students, not to be a means of preventing them from taking Class prizes. Moreover it places the so-called Prizemen in a very unenviable position because they are conscious that they are receiving what legally belongs to another, and if they have proper feelings on the subject they are ashamed of themselves for so doing. Who cares for a paltry four dollars worth of books unless he has the honor of making the highest score in the branch in question? The after effects of this arrangement, too, are decidedly bad because it may lead a student to devote a great deal of time to one branch in order to get a prize, and to do badly in all the others.

Another unjust act was the division of the Waverley Prize in the second year. Mr. Bearisto was the best student in his year, having four points more in the aggregate than Mr. Ross. The prize should have been given to Mr. Bearisto had he only exceeded Mr. Ross by one point, but with so great a difference as four the prize should never have been divided.

Again, Mr. Bearisto, although taking the first average in the year, has not taken a first class certificate, and Mr. Ross the next to him in average succeeded in obtaining one. What could be more preposterous than this. This system of certificates has been a grievance for a long time. One student in the present graduating year complains bitterly of this. In this second year, had he made two more points in each of three subjects—six points in all—he would have gained a first class certificate, and yet by this excellent system he failed in getting even a second class. The injustice is that the excess over 65 or 50 in one branch is not allowed to supplement lower marks in other branches in counting up for a first or second class certificate. The only way in which justice can be done to all parties, is to take the average proficiency of each student in the year, and to give certificates of the first or second class to those whose averages exceed 65 and 50 respectively. Until this system is changed, discontent will always be found after the sessional examinations.

ALUMNI ASSOCIATION.

The regular Annual Meeting of the Alumni Association was held in the College on Wednesday 30th ult., in the evening at 8 o'clock. The President—the Rev. J. H. Chase, M. A., opened the meeting with prayer, then read the Minutes of last annual meeting and gave in a report of the work and progress of the Association during the year. The Treasurer reported on the receipt and disbursement of finances. The Report of the Executive Committee on the revision of the Constitution and Bye-Laws was then received. They were taken up article by article as revised by the Committee. A warm discussion arose on the articles relating to membership, which were afterwards modified by a vote of the Association. The Constitution and Bye Laws were again put into the hands of the Executive for final revision. The Association then proceeded to the election of officers, with the following results:

President, Robert Sedgwick, B. A.; Vice-President, James Forrest, B. A.; Secretary, Charles D. McDonald, B. A.; Treasurer, A. W. H. Lindsay, B. A.; Committee, D. C. Fraser, B. A.; A. H. MacKay, B. A.; W. P. Archibald, B. A.; James M. Carmichael, B. A.; Ephraim Scott, B. A.

It was then agreed by motion that the \$20 prize be given as before to the Student of the First Year making the best average at the Terminal Examinations of the Session of 1873-74. On motion, a Committee consisting of Sedgwick, Fraser and Forrest, was appointed to take measures to have the Society incorporated. On motion, the Executive was empowered to contribute to the funds of the *Gazette* such sum as they might see fit.

The retiring President, Rev. J. H. Chase, M. A., then delivered an address which received a hearty vote of thanks and became the property of the Association. The meeting then closed with prayer, and adjourned.

CHARLES D. McDONALD, B. A., Secretary.

VALEDICTORY.

MR. PRINCIPAL, FELLOW STUDENTS, LADIES AND GENTLEMEN:

The class of '73 has arrived at that stage when it must bid a formal farewell to its Alma Mater. We are about to leave the old walls which have rung so merrily to our voices for the last four years. We are going to leave behind those scenes, the reminiscences of which will continue to spring up so vividly before us in after life. The Associations connected with our class rooms, our successes, our reverses, the smiles and frowns that occasionally flitted across the cold, uncompromising deportment of professional dignity—all will mould themselves into mental images, fanciful and recurrent in our day dreams as long as memory will last.

Fellow Classmen, what have we been doing here in those few pleasant years just gone? We have been laying a foundation—let us make it—of further usefulness. We have not completed our education; we have not properly begun it. We have arisen to a higher eminence, and find that the horizon which bounds the "known" has correspondingly enlarged. We are not disappointed because we feel we cannot master all knowledge; but are delighted with astonishment at the infinite realm of beauty, whose bourne appears to recede with every new acquisition of Truth—an acquisition which knows no other limits than our physical endurance.

Together, fellow students, we have been studying the nature and capabilities of language; the scroll of the world's history has been unrolled before us, and we have there seen and derived lessons from the struggling of intellect for ages, from the march of armies and the ever-changing destinies of man. Natural Science, like the mythic Midas in his river bath, causes all our streams to roll down sands of gold, so that now we have "sermons in stones, books in the running brooks, and gold in everything." We have seen how the analytical chemist can leave his testing in the laboratory and stretch out his presumptuous hand to examine the constituents of the heavenly spheres, while the eternal laws of mathematics not only condescend to teach us how to cast up an account, how to build a railway or a bridge, or how to navigate the blue, convexed ocean; but also how to measure the earth, and throw the Sun, Moon and Planets into a balance with comparatively greater ease than a grocer's clerk would a pound of tea. Our duty now is to develop our mental powers, thus disciplined in whatever profession we may adopt, endeavouring to become thorough men, that the world may be the better for having us.

Ladies and Gentlemen:—The present graduating class is the largest in the history of our College. Yet, in looking back we feel sorry to think that the fine large number with which we entered, has been reduced to the small band who, this day have donned the Bachelor's Hood. Death, which beats with equal foot against the palaces of the rich and the cots of the poor, beat with an unequal foot against ourselves; for two have been summoned to matriculate in a higher college where no physical ill can retard their studies. Circumstances bade others leave us; while the Rhadamantean judgments of the venerable Senate doomed not a few to disappointment which they were loth to risk again.

Taking a retrospective glance at the growth of the University of Dalhousie since we matriculated at its seventh Annual commencement, we would observe,—that we found it situated in one of the wealthiest little cities of America, and paradoxical though it may appear, in one of the shabbiest piles of buildings, we conjecture, that the respectability of wealth has ever tolerated to grace a Provincial Institution and a Metropolitan University. At Cambridge, the Students met at first in a barn, it is said—but that was over ten centuries ago. Halifax is more modern. In the encouragement of such patriotic schemes as certain equestrian games, and other races widely known as "aquatic carnivals" it is certainly quite modern. But to return to the point, during the educational lustrum now drawing to a close, we have been gratified by the improvement and enlargement, both of accommodations and of apparatus, in that free-stone pile half a century old.

Again, we have had the pleasure of witnessing the addition of a new Faculty to that of Arts, and surely it is with a pardonable patriotic pride that our students can point to the position of equality which has been accorded to our new School of Medicine by the highest medical institutions of Britain and America.

And last though not least, we are proud of the growing popularity of the institution of our choice. In four short years, sixty and odd have swelled to over one hundred, until now, Dalhousie, only ten years

old, draws more students to its class-rooms than the other five colleges of Nova Scotia, all put together, and here we have met and jostled against aspiring youths, not only from every part of the land of the Mayflower, but from New Brunswick, and from the red sandstones of Prince Edward to the fog-shrouded Heluland, and far away to the Indies where Antigua and the Bermudas break the sunlit wave on their coral reefs.

In prospectu: Some of our class intend engaging in one of the grandest of all works, although we fear not always a very successful labour.—A work of rebuilding one of the most ancient and stupendous ruins which have left their traces on this otherwise fair and happy world of ours—the moral and spiritual ruins of man. Yours is a grand calling—one of the noblest of all, if you enter into it with sincerity, earnestness and a large intelligence. One, to-day added to our number, we are happy to know, already occupies an honourable place in this work. Success to the labourers. Some of us may aid our fellow-men in trade and commerce, others in alleviating our physical ills; others in a not less worthy vocation may add to the intellectual wealth of the country, and yet others may recruit the Bar, to maintain the power and dignity of law and keep men honest.

Fellow Students, allow me in conclusion to throw out a general suggestion, which I think must recommend itself to all of us. Our intention to follow up the education we have begun, our loyalty to our Alma Mater, and charity towards all, I take for granted, needs no reminder.

But there is a danger in this country I fear of neglecting the cultivation of one of the most important public sentiments—one which all history shows has a most potent influence in shaping the destinies of a country. I refer to that public spirit which, independent of party politics and religious creed, is developed in patriotism and loyalty, and awakens the desire of advancing our country in greatness, and our people in goodness and general intelligence. If the spirit of national enthusiasm forsakes us, it is too apt also, to drag down with it kindred beneficial sentiments. It is the characteristic of national nobleness, and among students it has had some of its finest developments; as witnesses, their heroic stand in Vienna when the coward Emperor fled from it before the all-threatening Turks; as witnesses, the cannon manned by students on the heights round Paris ere the Great Napoleon fell; as witnesses, that stained window in a Canadian University, which commemorates the fall of Canadian Students who from their studies, "rushed to glory and the grave" in defence of an invaded country and threatened houses.

I do not advocate the cultivation of a purely military spirit, but of those generous sentiments which make us ever ready to undergo some sacrifice for the public weal—which will dispose us, for example, if we become millionaires, not to forget Dalhousie or any other institution that may be necessary for the true progress and enlightenment of our country.

"Let all the ends thou aim'st at, be Truth's, thy God's, thy Country's, then if thou fall'st, thou fall'st a blessed martyr."

With these reflections and these suggestions, fellow students we bid you farewell. To you Ladies and Gentlemen of Halifax—our friends, for your kindness and sympathy, accept our warmest thanks. To you our instructors, whom we shall never forget, and our Alma Mater, we say, as heretofore, so hereafter, *Semper floreatis*. To all—*Vale, Vale*.

REVIEW.

"ELECTROSTATICS AND MAGNETISM," BY SIR WILLIAM THOMSON, D.C.L., LL.D., F.R.S., LONDON.—MACMILLAN & CO.

Some men say too much and some too little. If those only were allowed to speak who had something to say worth hearing—how happy a world it would be. Sir W. Thomson is one of those wise men whose reticence has hitherto been a real loss to his contemporaries. Not that he has been altogether silent, but as yet his voice has scarcely penetrated beyond the walls of class rooms and Royal Institutions, and Section A of the British Association—listened to by an audience fit but too few. Nor are his utterances altogether unrecorded. They are accessible to the curious investigator of "Transactions" and "Proceedings," to these archives of the learned societies. To bring them out of this living death is a kind of literary resurrection, and confers much the same benefit that Mr. Froude and others have done in dragging state papers to light. The first instalment of these, with recent additions is contained in the book before us.

Every one has heard of the great Glasgow physicist. The popular conception of the man is composed of the following elements. He is known as one whose judgment on many scientific subjects is law; as one who was a *savant* and a professor before the age when average humanity cuts its wisdom teeth; as the President of the British Association in Edinburgh a year ago; as a universal appendage to every new enterprise in telegraphy; as a potent enchanter—a modern Roger Bacon—who charmed the

dumb Atlantic cable into life and speech. "Greatest electrician in the world," people say when his name comes up. But so was Franklin a great electrician, and so was Faraday; and how Thomson differs from Franklin and Faraday, his electrical admirers, when pushed into a corner have a difficulty in saying. Happily now the world that studies science, and the much larger world that talks about science, have some of the materials laid before them for pronouncing more definitely on this point.

The scientific men who come most before the public and into newspapers, are not the men who do most for science. It is one thing to question Nature in the laboratory and another thing to write popular treatises and lecture popular audiences. If a man wants a reputation, the latter is the cheaper and easier route. But the best sons of science are often the most retiring. There are those who find a road to fame by a happy knack of retelling the discoveries of others; by "starring it" in America and the British Provinces, delivering lectures spiced with Atheism and illustrated by the electric lamp; by being ready to start up at a dinner when "Science" is proposed, and thank the chairman for the honour he has done us.

An eminent authority wrote five years ago: "It is greatly to be regretted that Thomson's scattered papers, which are models" "of brevity and distinctness, and evince a marvellous clearness" "of perception, have not been reprinted in a collected form." "Till this is done, few will be aware, either of the immense extent" "to which he has pushed his theories, or of the number of" "discoveries in which he has anticipated those to whom they are" "usually assigned." Uniting as he does a brilliant imagination with the mathematical genius required to keep it in check, and the practical energy to carry out its suggestions, Sir William is at once a safe and original guide in investigation, and one of the most eminent of those who have shewn that the researches of the laboratory can be translated into every day mercantile facts, and Science trained to be the handmaid of Art.

Of course much of the contents of the volume before us is far too mathematical to be comprehended by any except a privileged few who are able to interpret the cabalistic figures by which the author's results are obtained and expressed. But much of the book is fitted for such as are of weaker capacity. The chapters on Atmospheric Electricity, and also those describing the author's Electrometers are specially interesting. He gives full accounts of the methods of collecting and measuring the electricity of the atmosphere, and of the results that he has got by the application of these methods. He shews how intimately the electrical state of the air is connected with the weather, and says that "there is no" "doubt but that electric indications, when sufficiently studied," "will be found important additions to our means of prognosis;" "cating it," and expresses a hope that the atmospheric Electrometer will soon be adopted as a useful and convenient weather glass.

Throughout the book frequent reference is made to Faraday (many of whose experimental researches the author has mathematically confirmed)—as, for example, in the following interesting passage, taken from a lecture Sir William gave at the Royal Institution:—

"We now look on space as full. We know that light is propagated like round through pressure and motion. We know that there is no substance of caloric—that insensibly minute motions cause the expansion which the thermometer marks, and stimulate our sensation of heat—that fire is not laid up in coal more than in this Leyden phial, or this weight: there is potential fire in each. If electric force depends on a residual surface action, a resultant of an inner tension experienced by an insulating medium, we can conceive that electricity itself is to be understood as not an accident, but an essence of matter. Whatever electricity is, it seems quite certain that electricity in motion is heat, and that a certain alignment of axes of revolution is magnetism. . . . It is often asked, are we to fall back on facts and phenomena, and give up all idea of penetrating that mystery which hangs around the ultimate nature of matter? This is a question that must be answered by the metaphysician, and it does not belong to the domain of Natural Philosophy. But it does seem that the marvellous train of discovery, unparalleled in the history of experimental science, which the last years of the world have seen to emanate from experiments within these walls, must lead to a stage of knowledge, in which laws of inorganic nature will be understood in this sense—that one will be known as essentially connected with all, and in which unity of plan through an inexhaustibly varied execution, will be recognised as a universally manifested result of creative wisdom."

One point is especially noteworthy in all Thomson's writings. Like the highly popular professor of Natural Philosophy in the University of Edinburgh—who has often been associated with him as a collaborateur—Sir William shews a strong attachment to the strictly Newtonian methods—methods which those who are neither Thomsons nor Tait's win a cheap reputation by decrying. Much even of the terse and accurate style of the great master comes out in the volume before us.

In the preface we are told that this volume is to be followed by reprints of all the other papers the author has written. It must be remembered that there are other fields besides that of electricity, in which he is *facile princeps*. It was his labours along with those of Dr. Rankine—whose death we cannot sufficiently deplore—which established the great doctrine of the Conservation of Energy. The principle, too, of the Dissipation of Energy is solely due to Sir William Thomson—that strange doctrine which teaches that the tendency of all forms of energy is to fritter down to heat; that the planets are gradually being retarded, so that one day they must fall into the sun; that unless wound up again, the Clock of the Universe must at last run down! As the author of "Ohrig Grange" puts it:

"Force changes, but its changes cost,
And in the elemental war
Conserving transformations are
So wasteful, time shall one day boast
But a burnt-out sun and a cinder star."

These principles, and many more equally important, if not so startling, are not only enunciated but proved in the not yet collected writings of Sir William Thompson.

In conclusion, we will only say that if the volumes which are to follow this are marked by the same novelty and laud accuracy they will form an invaluable addition to our purely scientific literature.

C.M.

Correspondence.

To the Editors of the "Dalhousie Gazette,"—

GENTLEMEN,—

In regard to the arrangement of studies to be laid down in the Calendar for the ensuing term, I wish to call attention to the regulations in regard to extra classics. That some such provision is necessary to decide between the most meritorious competitors, I do not for an instant hesitate to believe. But I think that the method of rating, and the regulations as to class standing are susceptible of much improvement. In spite of all that may be said against "cramping" for examinations, three fourths of the students attending any College will look upon the passing of examinations as the main thing to be attended to in their undergraduate courses. Nor is there anything reprehensible in this. If examinations be—as they should be—accurate tests of the quantity and quality of the work gone over in the preceding Session, then it is but natural that a student should look upon the fact of his having passed them with credit as a sufficient proof that he has given a reasonable amount of attention to the studies in which he has been engaged.

Considering then that the hope of passing a successful examination is one of the best stimulants to vigorous methodical study, I think that to put it out of the power of any one to attain a creditable position, unless by the accomplishment of extra work, is—to say the least—injudicious. Such a measure certainly does not tend to produce ripe scholars. Some few, to whom superior ability, industry, or preliminary training renders the work lighter, will undoubtedly accomplish the task required. But to the great majority of students the consequences, as far as concerns classical education are most unfortunate. The prospect of a position in the third class is a decided wet blanket to any enthusiastic study. I defy any student—be he never so conscientious—to study classics as zealously with the certainty of a third class before him as he would do had he a reasonable hope of a place among the first or second class.

I am aware that the present system is much superior to the one previously in use, viz., the same amount of work for all alike. A class of any considerable proportions will present such a diversity in talent, application and training as to necessitate a corresponding change in the amount of work required of each. But it should not be put out of the power of any one to take a creditable

standing. The rating in the extra work should be kept distinct from that in the regular, and the absence of the former should not necessarily entail a lower position in the latter. Nor do I think that the adoption of such a system would be accompanied by any falling off in the number of students taking the extra Classics. Any one desiring to be *facile princeps* in this branch of study will be none the less likely to turn his attention to extra work if the necessity consequent upon the desire of a position in the first or second class be removed. Moreover, if one or two less should give their time to extra work, the loss would be more than compensated by the increased diligence of the remainder of the class. If, as we are informed upon every available occasion, to "get up sixteen or twenty pages of translation is a very easy job," and that "special stress will be laid upon grammar and parsing," then is the fact that two or three students less "get up" the aforesaid sixteen or twenty pages of translation to be weighed against the fact that twelve or fifteen students are induced to give "special" attention to accuracy of grammar and parsing?

At all events if the powers that be do not deign to heed my humble suggestions with regard to extra work in general, I would ask special attention to the extra work of the 3rd and 4th years in particular. In these years the Honor Courses furnish ample work to the more ambitious students, while to those less enthusiastic in Classics the regular work furnishes sufficient employment. Even supposing the present regulations as to extra work to remain in force during the 1st and 2nd years, with the prospect of a creditable position in the last two years of his course, a student could easily bring himself to devote time and attention to his classical studies. But with the prospect of a series of third classes before him, I do not hesitate to affirm that, in the majority of cases, the work will be shuffled over in the most slovenly manner possible, his grammars will be neglected, and translations will be resorted to at the slightest difficulty. I trust that in the preparation of the Calendar for 1873-74 some notice will be taken of these few suggestions and changes made accordingly.

Personals.

H. W. BROWNRIGG, of Class '75, who left College on the sick list about two months ago, has not come up for examination. He expects to join Class '76 next fall.

OUR missing Editor, also on the sick list has recovered, and is in the death, or in other words has gone for a "sheepskin."

GRAY and Forbes, Class '76, left town about a week ago, also among the unfortunates. Never has sickness been so prevalent in College as this season.

EXCHANGES.

FAIR inmates of Vassar, we thank you for the protecting arm you have thrown around us to shield us from the violent attacks of that *metaphysical Medusa*, "Leaflets of Thought." You are right, fair editors! Those who demand absence of criticism on account of sex, should desert the sanctum in the drawing room. In the latter, we are partial to the fair sex; in the former, impartial criticism is our duty, if criticise we must. May you always be as considerate for the welfare of our sex. The fact that you show no prejudice in the matter does you credit.

SINCE last issue, subscriptions have been received from the following:—Revds. J. Byers, M. G. Henry, A. F. Carr, A. Simpson, A. Stewart, S. Houston, J. C. Burgess; Hon. S. Creelman, Dr. McLean, Dr. DeWolf; Messrs. J. J. Cameron, M.A., A. G. Cameron, H. Murray, W. H. Troop, J. Connors, Charles Putnam, W. H. McDonald, C. D. Huntor, John W. Geddie, S. J. Waddell, John Kelly, Wm. Cruikshanks, B.A., A. W. Herdman, Dr. F. S. Creelman.

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