BUT HE'S SUCH A FINE FELLOW MOTHER.

The Principal's Message.

IT seems but yesterday since the JOURNAL issued its Foreword of Greeting in its first number for the current session, and now to all its readers it sends heartiest good wishes for Christmas and the coming New Year. Life moves rapidly with us at Queen's. We shall enjoy the brief respite of the Christmas holidays, and, as with Sam Weller's valentine, "shall wish there was more of it."

From its watch tower, as critic and publicist, the JOURNAL is ever on the look-out for what makes for the welfare of Queen's, yet also with an eye for those broader interests that affect the good of the commonwealth. In this wider survey nothing has of late seemed more noteworthy than the efforts that are being made to secure permanent international peace. We hail with sincere gratification the prospects of celebrating a century of peace between Canada and the United States, a gratification all the greater because the present relations are full of promise regarding the future. Beyond all other agencies the universities of the two countries should be helpful in promoting peace and concord, for it is the aim and life of a university to acknowledge the supremacy of reason and to advance the kingdom of truth; and reason and truth must always make for peace and concord.

These two nations, so largely one in language and literature, in laws, religion and government, in all the heritage that has come to them from the past, are becoming still more closely one in their ideals and aims. They are beset by similar difficulties; they strive together to solve the same problems. Their best citizens admire the same stamp of character, maintain the same code of morals, and are growing more willing to share the white man's burden of responsibility and duty along with the white man's privilege of enlightenment and liberty. They are drawing closer together because they are working towards the same goal. You steer your boat not looking at the wake you leave behind you on the water, but by looking forward to headland or lighthouse or star. You shape your life course, whether private or national, not by the memories and traditions with which you grasp the past but by the hopes and purposes with which you seize the future; and you are coming ever closer to those who share your hopes and efforts like ships that are steering for the same port.

Beneath all the distinctions that may divide the members of the English-speaking world there are great purposes and ideals that they hold in common, visions that they share together concerning the Kingdom of God among men, dreams of that coming day "when man to man the warld o'er shall brithers be, and a' that."

And so, as the great Christian festival comes round again, with all its home joys, its hospitalities, its gifts and greetings, and its kindly helpfulness to those who need our aid, we think of that empire in which the Lord of Christmas is King; we seek to get nearer in spirit to the Christ Who is ever with us, and to be fellow-workers with Him in realizing His world-wide purpose of "peace on earth and good will to men." May this be the vision and the spirit of the sons of Queen's.—D. M. G.

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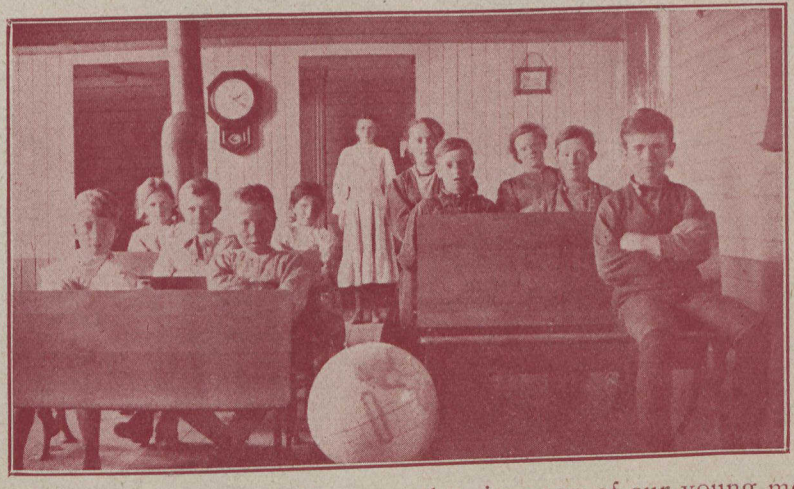
A Vacation in Saskatchewan.

SCARCE any member of the teaching profession in Ontario, would consider school-teaching, as a possible way to spend the summer vacation, so that one might return in the fall with both mind and body rejuvenated. But already some scores of university students have demonstrated to their own satisfaction that such is not only possible but indeed quite pleasant. After a surfeit of lectures by professors, fellows and even tutors, and once the annual spring cramming and the examinations are as a hideous dream in the past, the average student feels quite a longing to be able to get up and do something definite and active. To such, the occupation of teaching a summer school in Saskatchewan or Alberta, has proved to be beneficial in various ways.

It is now some years since Horace Greeley uttered the famous words: "Go West, young man." That love for adventure, which slumbers more or



less in us all, has seemed to suddenly awaken in many of our young men and women, and the call West had to be obeyed. The "Lure of the Labrador Wild" was insignificant compared with their longing to see for themselves, the land of which so many glowing accounts were told. Hence "western peregrinations" have since become an assured fact for many university students.

As a first consideration, the journey alone is quite an educative factor. Those who are good travellers find the novelty of viewing a new variety of

scenery a sufficient incentive. Who—of us who have been there—can forget the wilderness of destroyed forests, with their tall blackened trunks looming up on the rocky heights, like as many gigantic darning-needles; the occasional Indian tepees between the sparsely scattered stopping-places; the numerous little lakes, still ice-clad tho' it is the last of April; the tortuous mountain streams with their black rushing water standing out in strong contrast to the snowy land. But pen fails to describe the uplifting power of Lake Superior as the majestic expanse breaks on one's view again and again, while the train winds its devious way along the rocky shore, over the high trestle-works and through the deep cuts and unexpected tunnels.

Once Winnipeg station is reached, you think it must be the mecca of every land under the sun. Rarely does one see such a cosmopolitan gathering; the Englishman with his accent and his everlasting cane; the dour-looking Scot

and the Irishman with his perennial smile; the little groups of newly-arrived Germans, Swedes, Norwegians, Frenchmen, Italians, Ruthenians and Doukabours, who stand huddled together and gaze apprehensively at the motley throng. The few hours spent in "doing" the city leave one with the impression that it is essentially a progressive place; everyone seems to be rushing around with great velocity and excitement can be felt in the very air.

After leaving the "Peg," one gets a plenteous view of real prairie. No matter what you have pictured it to be ,the actual sight gives one a distinctly

peculiar sensation. There it is—flat table-land covered with waving yellow grass ,and it stretches "in airy undulations far away" until your eyes almost ache from the monotony of it. No trees at all, just a few stunted shrubs and occasional pools of water, which we would name "duck-ponds" at home and are here called "sloughs." Then the land becomes more rolling and boasts many little knolls, some sand-hills and a few trees. More prairie follows and if you are up in Northern Saskatchewan you will find dense forests of poplar and spruce.

Go where you may, the rural school in Saskatchewan is built from the same model; an unpretentious frame structure with oftentimes a porch, or if not that, then a partition forms a sort of vestibule within. Externally the school is usually painted white with blue trimmings; sometimes, alas! a less

attractive color; on a certain school the knot-holes were so visible that one thought the prevailing epidemic of measles had also affected the school-building.

One pleasant feature of school-life is the friendly spirit that prevails. As the schools are usually open only during the summer months, the pupils evince great anxiety to make the best of their opportunities and so little or no friction ever occurs. Pupils number anywhere from five upwards and their ages run from seven to seventeen. They enter heartily into their games and as a swing and a merry-go-round are frequently provided, they are able to

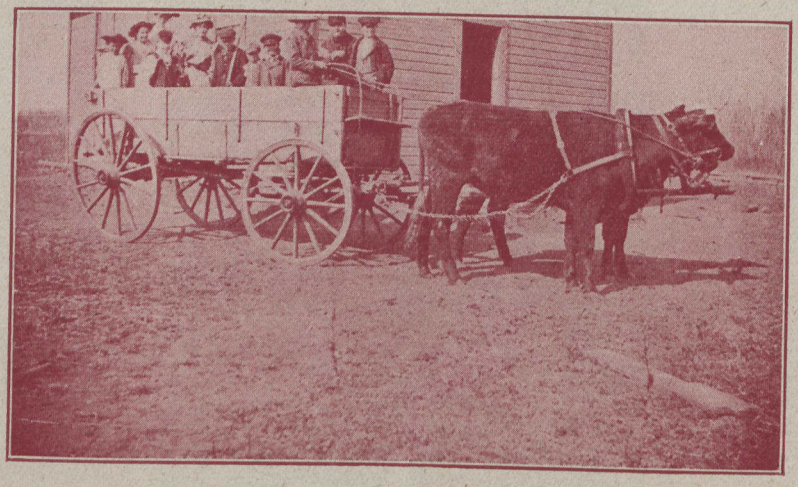
have some very happy hours. Once school is out, they quickly harness their horses or oxen and race each other home.

At first their musical endeavors may remind one of Josh Billing's pithy saying—

"Music hath sounds to soothe the savage,
Rend a rock or split a cabbage!"

But time and perseverance accomplish wonders and before the term is over they can sing quite tunefully such difficult songs as "O Canada," "Rule Britannia," and even De Koven's "Winter Lullaby."

Naturally one would feel more at home in an English-speaking settlement than in a foreign one. But the new-comers to our land take on our customs very quickly and some teachers in Icelandic, German or other foreign schools report themselves as having spent a pleasant and interesting summer. True, one usually is deprived of a few luxuries, since in newly-settled communities the small homes are rather sparsely furnished. But does not the chief charm of "camping out" consist in having to do without some of the customary comforts? As the beautiful out-doors is a continual temptation, one does not need to lead a sedentary life, apart from school hours. If you



do not know how to ride or shoot, you will be sure to learn and thus be able to provide your own amusement. Farmers are very busy people and often one has to rely upon one's own resources. However, the people are universally kind and give you the best they have, which is all one could expect.

The teacher is always recognized as a great social factor and is therefore expected to get up picnics, concerts, organize Sunday schools, act as music teacher and in fact do anything that comes to hand. One teacher acted as "boss" over a gang of boys who "scrubbed" or cleared a grove ready for the picnic. Then when picnic day came, the same person was general manager of the sports, the refreshment booth and the supper-table. But as everyone else gave their hearty support, the work in reality was very light. That is one characteristic feature of the West—hearty co-operation; whether

it be in constructing roads, harvesting, or getting up a congregation for the student missionary, who comes fortnightly from the tiny town—ten miles distant.

It does take some time to accustom one's self to the weekly mail service, but it is when you are similarly situated that you learn to properly appreciate letters. Then, too, it is quite a novelty not to be able to "go down town" every day, but people are very generous in offering to convey you to town, and once acquainted with the leading townsmen, you often find yourself the recipient of their kind hospitality. Tea-meetings, garden-parties, fairs, dances, picnics, concerts are constantly taking place, so there is plenty of opportunity to see the social life of the West.

Perhaps this sketch may seem too highly colored, too optimistic. True, at times, the stuffy school-room does seem like veritable drudgery, since teaching on a hot July day is not quite so pleasant as boating on the St. Lawrence; again, one does occasionally meet with people, who for some unknown reason affect to quite ignore you. But these are rare exceptions and are so trivial that one does not need to consider them at all. There is plenty of the novel and interesting to keep one's attention occupied, and once back again to college life, the change of scene and occupation proves, not only to have renewed one's energies, but also to have broadened one's outlook and sympathies to a remarkable degree.—J. S. K. '10.

A Northern Summer Evening.

ONCE upon a time, as the fairy books say, there was a geological survey party which had struggled up a swift little beast of a stream in the Western Northland until it had come to the summit or height of land.

The next day, instead of the usual toil against swift water, we came to a beautiful lake: all lakes are beautiful to those who have been contending with rapid water, but this was a curious as well as a beautiful one, and its borders were unknown and uncharted.

It was a calm, sunny, afternoon, with nothing to distract one, but the presence of odd little hills which rose in a solitary way from the sparsely wooded islands and shores. Geologists have many names not understood of the people for such hills, but we will call them whale-backs, gravelly mounds with a few scattered trees upon them.

As evening approached we put into a nice little gravelly bay near one of these whale-backs and made our camp—a pleasant place, for this is not the Eastern Northland, but the dry, half-open country not far from the "Tichi-Nitchili," "The land of little sticks," which borders the Barren Grounds. Small trees grow in park-like order from a carpet of greenish-white reindeer moss over which one's footsteps pass in silence; when the evening sun glints athwart these tree stems and the mossy ground it might be fairy-land itself or anything weird and uncanny, into which might step fauns, dryads, or even

a Barren Ground cariboo, with its semi-palmate horns, also moss covered at this period. Such a place as the children of the forest might wander on and on and meet all sorts of creatures.

Not long before sunset, I left the camp to go up the little hill near by; on this particular whale-back there were a few stunted little jackpine trees such as incite one to climb to see a little further; from here could be seen enough to make one want to go to a higher one about a mile away. A mile in those open woods was only a few minutes' run then another whale-back, and another tree with a look over the great wilderness of forest tables, and little hills, thence through the silent spaces back to the camp, for it was growing dusk, and fearful, with nothing to guide but the sound of the water fowl on the big lake. These birds set up a lamentation which began afar off, reached a crisis opposite the camp and then died away into the distance again. I don't know what kind of birds they were but always suspected they were in the moulting stage and very uncomfortable; they were more mournful than the concerts sometimes given by the dogs at a Hudson Bay post. Such joyful surroundings hastened me towards the camp; a branch cracked somewhere off to the right, and I went faster. As I passed the base of the first little hill I saw a man's figure against the skyline and called to him, thinking it was our chief who had expressed his intention of climbing this ridge. I received no answer, but thought no more of it and came in to camp.

Some one asked where the chief was. When I said I had seen him on top of the hill, the interpreter's face went grey, and he said ,"No he's in his tent," and in the tent he was and had not left it during the evening. The interpreter talked to the Chipwayans, and one of them skirted the hill, calling in his own language, but keeping the camp in sight lest he should have to run. There was no response. Consternation possessed them all; even the cook, a white man, thinking it a fine joke made some solemn expressions of astonishment.

"Beaver Indians," said the interpreter. "Sure Beaver Indians," said the cook, then they all set to work charging their muskets, for not one of them would come on the trip without his gun, old fashioned single barrels. Now the Beaver Indian, to these people, is a fearsome creature who lives a solitary life in these Northern regions, and makes a raid, whenever he can, upon the Chipwayan hunters, slaughters them and carries off the women and children. It appeared for a certainty I had seen one of them.

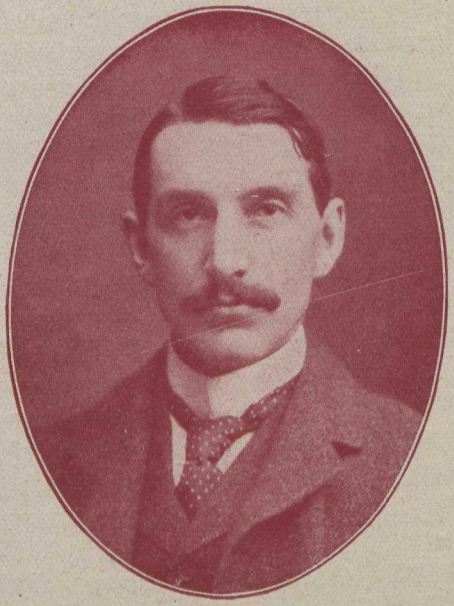
I pointed out to the interpreter that there were six of us, and we could manage a Beaver Indian or two. "That's not it," he replied. "I lived a long time and seen lots of things; once I saw a place where there was a lake and all round it was rocks and little men lived in them: perhaps this fellow is one of them." A little later he said: "Won't the 'boss' have his tent moved closer to ours," but the 'boss' preferred to stay on the bench above us. Presently a loon cried from away up the lake. "Who made the loon Pierre," I asked.

"Woo-sac-i-Jack," he replied. "Woo-sac-i-Jack made him and when he saw what an ugly bird he was he gave him a kick which sent him into the world without a rump."

"Did you ever see Woo-sac-i-Jack," I asked. "Yes," he replied, "I saw him once at Fort Carleton eleven years ago. He was going north then. They saw him after that passing over the east end of Lake Athabasca, and then he was in a boat high up in the air. Twelve men in red coats were rowing him through the air, and others were beating a drum and fiddling. He has not been seen since."

It was getting late. The Chipwayans prepared to sit up all night beside the fire. The interpreter lay down with his gun beside him, and the cook to show his good intentions, sharpened our largest butcher knife and retired with it stuck in the ground beside his bed; all was peace for a little while until the loon repeated its cry quite close to the camp. Pierre, half asleep, rushed out of his tent, forgetting his gun: "What's that!" "Beaver-r Injun," said one of the Indians. Pierre looked enquiringly at Ithingo, who only smiled in his quaint way and said "Tadzini" which is Chipwayan for a loon. Morning came and nothing had happened. The terrors of the night were dispelled by the bright sun and the sleepy watchers set forth again on the mysterious lake

By noon we were many miles from the camp of our restless night, but looking backward we saw a column of smoke begin to rise not far from it: our own fire could not spread where we had placed it, and this smoke was taken as good evidence of our prowling enemy, for there were no other human beings known to be in this region. To this day I don't know what it was I saw on the crest of that little hill or whale-back—perhaps a cariboo in front elevation—but Pierre had already found another interpretation for he said an Indian hunter had been buried at that place twenty years ago, and it was his tormented soul which walked the earth—for he was a very bad man.—J. C. G.



PROF. J. C. GWILLIM.

The Philosopher's Stone.

(Address delivered by Dr. W. L. Goodwin before Queen's Philosophical Society.)

ONE cold day the Philosopher Empedocles, feeling himself chilled, made a fire of wood on his hearth. As he watched it burn he mused upon the problems of all time. "What are things made of? What is the ultimate composition of substances?" As he mused he noted the flames, the smoke, the water condensing on the cold stones, and the earth-like ashes left as the wood disappeared. The wood had been resolved into earth, air, fire, and water. Fed by the air, the rain, the fires of the sun and the earth in which they stand, the tree and other plants grow. The cow eats grass, drinks water, breathes the air, is warmed by the sun, and so is made of the same four *elements*. Man eats the cow and the plants, and drinks water. Man is made of the four elements. Here is an answer to the great question. All things are composed of these four elements. By a process of mental sublimation the elements became imaginary principles or qualities. Empedocles held the view that these four "elements' are themselves modifications of one primal matter or protyle. It follows that it is possible to change one element into another. We have then in the theory of Empedocles the germ of the idea—*the transmutation of the elements*. As we go on we shall find this idea taking a very important part in the theories and researches of philosophers and chemists.

This theory of Empedocles was a synthesis of those (1) of *Thales*, who held that *water* was the material from which all things are made; (2) of his friend *Anaximenes*, who made *air* the element; (3) of *Pherecides*, who gave that place to *earth*, and (4) of *Heraclitus*, who taught that everything had its origin in *fire*.

Here, then, twenty-four centuries ago, were theories of the elementary composition of things,—based upon very few and very simple observations, but elaborated by the wonderful Greek intellect into a philosophy of nature.

But another theory of interest to us chemists had its rise about the same time, or perhaps earlier. In sunny India, the philosopher Kanada, watching the dancing motes in a sunbeam bethought him that here was the secret of the world of things. These minute moving particles, or smaller particles composing them, were the materials of which all things are made. From some such source Leucippus, perhaps, got his idea of atoms, which in the hands of Democritus became the atomic theory. While Empedocles contended for the infinite divisibility of matter, Democritus taught that the ultimate constituents of things were unchangeable, indivisible particles,—the *atoms*, in constant motion, and of various shapes and sizes. By adhesion to each other they build up visible bodies. Atoms required intervening *vacuum*. When the atoms are closely compacted, with little vacuum, solid bodies such as stones are formed. When the vacuous spaces are relatively large, there are produced bodies of loose texture such as wood, water, and air.

It will be interesting to glance at a discussion of these theories given by Lucretius four centuries later. I quote from the quaint translation of Creech:—

"They grossly err who teach all rise from fire;
As Heraclitus, whom vain Greeks admire
For dark expression; but the sober few,
Who seek for and delight in what is true,
Scorn and condemn; for only fools regard
What seems obscure and intricate and hard,
Take that for truth whose phrases smooth appear
And dancing periods charm the wanton ear."

"For how could bodies of so different frame
So various, rise from pure and real flame?
Nor can you clear the doubt by fond pretence
That fire is made more rare or else more dense.
This changes not the fire, 'tis still the same;
If dense, a strong, if rare, a weaker flame.
Yet this is all that can be said."

"Therefore all those who teach things took their birth
From simple fire or water, air or earth
Lie under palpable mistakes.
And those
That teach from doubled elements they rose
As air and fire, as earth and water joined
Or all four, earth, air, water, fire, combined.
Thus sung Empedocles."

"And if you think that earth is joined with fire,
With water, air, *their nature still entire,*
Nothing could first be made, or made, increased;
Nor tree, nor man, nor tender fruit, nor beast:
For each component in the various mass
Would keep its nature, and be what it was;
And we should view confusedly joined and fixed
Their air with earth, and fire with water mixed.
But principles of things must be unknown,
Of nature undiscerned, lest any one
Rising above the other should appear,
And show that things not truly compounds are."

Here is a discussion, 1900 years old, which would fit exactly the distinction which the modern chemist makes between the *'truly compounds'* in which the individuality of the constituents is lost, 'undiscerned,' and mere *mixtures* in which the constituents are visible or otherwise discernable. Lucretius is criticising the idea that the mere mingling of visible or appreciable masses of the elements can give rise to bodies of different substances.

During the first fifteen centuries of the Christian era all writers on alchemy

and chemistry, if they use theory at all, show their acquaintance with both Empedocles and Democritus. But while the theory of the elements suffered endless modifications, some of which were even improvements, the atomic theory was passed on from generation to generation pretty much as it left the hands of Democritus, a finished product, so far as it was a purely speculative doctrine of the constitution of things. (I am speaking as a chemist).

In addition to his theory of the four elements Empedocles has left on record a conclusion which he seems to have arrived at on purely speculative grounds. In opposition to ordinary experience and observation of outward appearances he states that "nothing can be made out of nothing, and it is impossible to annihilate anything. All that happens in the world depends upon a change of form and upon the union or the separation of bodies. An everlasting circulation is characteristic of nature." Here are in a few words the most important principles of modern physics, chemistry, biology and geology. They might have been taken from twentieth century text-books.

But both theories were wanting in certain respects which sharply distinguish them from their modern counterparts. There is nothing in the hypothesis of the four elements to suggest an experimental research,—no hint of the desirability of trying earth, air, fire, and water to see if they are really elementary. In fact the ancient philosophers are said to have had more or less contempt for the experimental method of examining nature, and even for inquiring into the motions of the heavenly bodies by observing them. It is related of Archimedes that he apologized for his experimental way of attacking the problem of the genuineness of the golden crown, and called it work of a very inferior value. Socrates seems to have been the first of utilitarians,—for he is said to have taught that "it is unwise to leave those things which directly concern man to study those beyond his control and external to him. To enquire into the nature and the distance of the stars seems a useless speculation, because even if we could ascertain these things, we could neither alter the course of the stars nor apply them to any benefit of mankind." There was a pretty complete divorce between the thinker and the artificer. While this was the case, there could be little progress in the study of the experimental sciences. The philosophers speculated gloriously, while the humble workmen blundered on making paints, extracting metals, fermenting wine, now and then stumbling upon some new method or substance, but mostly doing as their forefathers had done.

There is absent from the early theories of the composition of substances a certain idea without which it was impossible to arrive at the modern position, viz., the idea of a substance as a *species*, with its own set of constant properties distinguishing it from every other species. I can illustrate this by reference to sugar. The popular conception of sugar allows a certain amount of variation in the properties of the sweet substance, described by the names, white, brown, maple, beet, cane, etc. To the chemist these are not varieties of sugar differing in properties, but the species sugar mixed with various other substances which modify its colour, taste, &c. The substance sugar when completely separated from these other substances is a perfectly definite material which tallies in every

point with a well established set of properties, no matter what its source,—cane, beet, or maple tree. Two thousand years after Empedocles, we find chemists still quite hazy on this point. Among the properties of a compound, as chemists now define it, is the *fixed proportion* in which the elements composing it are united. This idea is absent from the old theory of the four elements.

I have gone thus particularly into these theories of the ancient Greeks, because of their enormous influence upon the history of chemistry for at least 1,500 years; and during that whole period, many historians of chemistry contend, the authority of the Greeks, particularly of Aristotle, retarded the progress of the science. This may be true, but I think it may be said in rebuttal that a good *a priori* theory is better than none, if it does nothing else than to stimulate thought. It can also be argued that the Greek theories kept before investigators the inquiry into the composition of substances, and thus led to the accumulation of data for the overthrow of these theories and the establishing of better ones.

One consequence of the theory of Empedocles was, as already noted, the suggested possibility of the transmutation of the elements. This possibility was quite in line, not only with the wonderful transmutations visible in the plant and the animal as they grew, flourished, and passed away, but also with an increasing number of observations such as the apparent conversion of a piece of iron into copper when it is placed in blue vitriol water, also the conversion of copper into brass, very like gold, by melting the copper with a stone (*calamine*). If this is possible why is not any metal transmutable into any other? Why not lead or copper into gold or silver? And so we come to *alchemy*.

Berthelot, who has made an extensive examination of the alchemistical manuscripts, says that alchemy rests partly upon the industrial processes of the ancient Egyptians, partly on the speculative theories of the Greek philosophers, and partly on the mystic reveries of the Gnostics and the Alexandrians. It pretended to enrich its adepts by teaching them to manufacture gold and silver from the base metals, to shield them from disease by the preparation of the panacea, and finally to obtain for them perfect felicity by identifying them with the soul of the world and the universal spirit.—(*Berthelot Les Origines de l'Alchemic.*)

The first mention of the transmutation of the metals is in a Greek manuscript of the 4th century, A.D., where it is noted incidentally, but as if familiarly known at the time. It is not mentioned by Pliny or Dioscorides (1st century A.D.), and so probably came into notice in the second or third century. The Egyptians were most proficient in metal working in the early centuries, and tradition makes Egypt the birthplace of alchemy. The Egyptian priests also cultivated not only philosophy but the secret arts of the laboratory. That wide-spread credence was given to the claim of the alchemists is shown by the destruction of the great library of Alexandria by Diocletian "so that the Egyptians might not enrich themselves by this art which might supply them with resources to enable them to revolt against the Romans." In the University of Leyden is a papyrus of an earlier date than this event. It escaped the conflagration, as it had been buried with its owner, an artisan of Thebes, and was thus preserved for us. The recipes in this old book agree with those in the later Graeco-Egyptian mss. They relate to the

colouring and alloying of baser metals so as to make them look like gold and silver. While these arts may have been at first consciously fraudulent, their votaries came to believe that by some mysterious incantation or by the use of a subtle principle, the philosopher's stone, they might turn this "imperfect" gold and silver into fine metal. In this same papyrus is an incantation which I may give as a specimen:—

> The gates of heaven are opened:
> The gates of earth are opened:
> The way of the sea is opened:
> My spirit has been heard by the gods and genii:
> My spirit has been heard by the spirit of heaven:
> My spirit has been heard by the spirit of the earth:
> My spirit has been heard by the spirit of the sea:
> My spirit has been heard by the spirit of the rivers.

The great University of Alexandria became the centre of alchemical study and literature. The Alexandrine philosophers constructed a theory of chemistry based upon the idea of the Platonic primal matter, common to all bodies and capable of taking any form. They developed particularly the conception of the primal matter of the metals, the *mercury* of the philosophers. This idea, combined with the theory of the four elements, led inevitably to a *philosophical* theory of transmutation. When the Arabs overran Egypt, 632 A.D., they absorbed not only the art of the alchemist but also the theory of the philosopher, and carried their learning wherever their conquests extended. In this way Europe became acquainted with the sacred art.

So it comes about that the first real alchemist of whom we have any extended and authentic record is an Arab, Geber, or Ghebir, who lived in the eighth century, spending most of his life at Damascus. He taught that all metals are composed of sulphur and mercury,—but these elements, like the four of Empedocles, were not real substances, but a sulphurous principle and a metallic principle, imagined to be present in all metals, the specific properties of the metals being due to the relative proportions and to the *purity* or *goodness* of the two principles. While this theory partook of the *a priori* character and the vagueness of the earlier speculations, it had the merit of collecting into a group real substances, still classified together. The idea that the base metals can be converted into the noble is clearly set forth in his works, but he does not claim that he was able to effect the change. As a physician he devoted his energies rather to the discovery of substances of wonderful healing and life-giving power.

A theory of the world was now gradually developed, based on the fundamental conception of the unity of matter. Beneath the changes which seem to occur everywhere and in everything, there must be, it was held, some unchanging and unchangeable essence. To find that essence became the quest of alchemy. To the alchemist the ordinary changes and transformations were merely changes as it were in the enveloping properties of things, for he thought of substances as distinct from their qualities. These could be removed and the underlying entity would then appear. The characteristic differences between individual substances

being removed, there were still differences which allowed a classification to be made according to certain *principles* common to a class. When these principles in their turn were removed there remained *"the one thing," "the heavenly rain," "the water of paradise," "the virgin and blessed water," "the old dragon," "the carbuncle of the sun,"* "by which thou mayest turn copper, iron, tin, and lead into most pure gold." "No wonder that one who had joined the quest, but had been distracted by the perplexities of the path, once exclaimed: 'This horrid beast has so many names that unless God direct the searches it is impossible to distinguish him.' "—(Muir). By obtaining a mastery over the principles of things a man was able to accomplish many minor transformations; but to be a master of *the stone of wisdom,* which was *youthful and ancient, weak and strong, life and death, visible and invisible, hard and soft, most high and most low, light and heavy,*—was to have the power of performing all transmutations. As the qualities and principles of some substances could be removed more easily than those of others the first aim of the alchemist in his search for the *essence* or *philosopher's stone* was to find the most suitable substance or substances to begin the series of operations. Hence the strange ingredients that were thrown into the crucible for the perfecting of the *Stone of Wisdom.* As Surly says in Ben Jonson's *Alchemist*:—

"Your stone, your medicine, and your chrysosperme,
Your sal, your sulphur, and your mercury,
Your oil of height, your tree of life, your blood,
Your marchasite, your tutie, your magnesia.

. . . . . .

And then your red man and your white woman.

. . . . . .

Hair o'the head, burnt clouts, chalk, merds, and clay,
Powder of bones, scaldings of iron, glass
And worlds of other ingredients
Would burst a man to name."

(Quoted from Muir).

In the 8th century the alchemists only discussed the possibility of finding the philosopher's stone, and carried on experiments to that end. In later manuscripts we find them writing of it as if they were able to make it, and there are many stories of transmutation by its means,—stories told with a particularity and air of verity which might be convincing, if we could transport ourselves back to those days of simple faith. (*To be continued*).

Miss G., at the 'phone after Freshman's Reception:—"Send the bill to the Y.M.C.A., to Mr. S-----t, the president."

Florist Clerk:"Yes—to Mr. St----t, the Residence."

Prof. C----n, lecturing on Wordsworth—"'When Ruth was left half desolate'—Plain simple language—'Her father took another mate.'—Plain enough too!"

Queen's University Journal

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Editorial.

CHRISTMAS.

THE task of saying anything about Christmas that is not 'dull, stale and unprofitable,' has become one of difficulty. The subject has been a peg on which innumerable editors have hung profound discussions and sermons. The joyousness of the season has been heralded, the edict of best wishes has gone forth. Some have approached the subject with a desire to be facetious but have ended with a heavy moral after a 'pause.' Others declare it is not their part to sermonize, then considering this preliminary an apology for the act, proceed to do so. Amongst college magazines Christmas has been a source of all grades of literature, ranging from sheer nothingness like this one to the profoundest speculations: One inspired by thought of plum-pudding, another by the promptings of the moral nature. Thus the gamut of felicitation is run. The JOURNAL elsewhere has extended to the students sincerest Christmas greetings. Like the *McGill Martlet* we include even our enemies in the well-wishes and bring the mid-year examinations within the scope of benediction.

Wonder, however, as one may at the capacity for serious thinking that the Christmas editorial mind possesses, it is to be acknowledged that the fact is not unnatural. That man is not content to allow a season of rejoicing to pass without some twinge of the feeling with which Wordsworth wanted the mind to contemplate the stars as they came out one by one is indicative of human status. Plum puddings and gaiety are the externals of the Christmas spirit whose deeper content is a lesson in steady optimism, friendly sympathy and interest and a sane recognition of eternal truths.

The Journal extends to every Student sincere wishes for a Happy Christmas and a Joyous Holiday--not to mention success in mid-year exams.

THE NON-FUSSER'S MOTTO.

Some fancy the lasses athletic
  Who run, dive, and swim like a breeze;
Some care for the brand which is social,
  And feeds upon five o'clock teas;
Some like Brat and Somerset fair ones,
  Their ten-below-freezing-point stare;
While another, frequenting the chorus,
  Has picked out his "only one" there.
Some pairs like to pore over Browning
  In the shade of the old apple tree;—
But, by golly, the girl on the dollar
  Is the one that goes twosing with me.

—*Harvard Lampoon.*

The Mock Parliament.

Speech From the Throne.

Gentlemen of the House of Commons and Ladies of the Upper House:—

IT was found necessary to prorogue the session of the Houses of Parliament last February in order to allow members time to cram for examinations. This necessary duty having been performed with varying degrees of success, you are called together, once more, to consider the needs of the nation, and to pass such legislation, as shall seem most fitting to supply those needs.

This country has been blessed with unparalleled prosperity during the interval since prorogation. A bountiful harvest has been reaped, vast development of mineral resources has taken place, fisheries and forest have added their quota to the nation's prosperity, and manufactories have been established in all parts of the land.

It is to be noted with gratitude that we are now at peace with all foreign nations—indeed ever since the conclusion of the football season.

If there is one drawback in all this time of prosperity and peace—one fly in all this pudding as one might say—it is in the seeming slowness of the Department of Public Works, in covering with buildings the holes dug in what was once called "the upper campus." My government has watched with care the digging of the holes, and hopes to report before the next election or at any rate, before the election after the next, the laying of the foundations.

In order to keep pace in legislation with the vast advance in wealth and population, I have found it necessary to call the present session thus early.

An educational bill will be presented to you in reference to the State University. An earnest attempt will be made to put education on a better basis. With this end in view, the bill to be introduced by my government, will seek to establish co-education; it will provide for compulsory physical training for professors, thus supplementing gymnastics by professors in the class-room; it will abolish all classes during the football and hockey seasons; and it will provide for a free government railroad from the State University to the Athletic Grounds.

Bills will also be introduced to protect the mere male population, from dangers from women's head-gear, from which the death rate in the past year has been appalling; and to inspect boarding-house diet. This latter has been rendered necessary by the serious inconvenience to my government which has arisen from the unwieldy proportions of the Secretary of State.

Bills will further be introduced to provide for free postage with rural mail delivery; and for increase of the standing army. The former is rendered advisable by the high state of intellectual development throughout our realm, and the latter is made imperative by the need for greater protection from foes within and without. The present army consists of one very efficient unit—Colonel Campbell—but owing to the increasing danger from the Suffragette movement, this is not considered sufficient to surround all the foes of the kingdom.

Gentlemen of the House of Commons: the accounts for the past year, and the estimate for taxes for the coming fiscal year, will be presented to you. The accounts you may keep, when paid; the taxes you will kindly forward to the Registrar's office not later than March 22nd.

Ladies of the Upper House, and Gentlemen of the House of Commons: these important subjects and all matters affecting the public interest I commend to your best consideration.

University Bill.

Whereas the deplorable condition of education in our State University has come to the knowledge of His Majesty's government, be it hereby enacted:—

1. That this Bill be known as the University Bill.

2. The abolition of all classes during the football and hockey seasons.

(a) The football season shall include that part of the college term from Sept. 1st to Dec. 1st, inclusive.

(b) The hockey season shall include that part of the college term between Jan. 1st and March 1st.

3. Gymnasium shall be compulsory for all professors.

(a) The Registrar shall be excluded.

(b) P. G. C. shall be exempt for one year beginning Dec. 14th.

(c) Professor Ferguson must not curl.

(d) These exercises shall include the 100 yard dash which shall be laid off between the history room and the old Arts building and shall include every third step of the stairs in the new Arts building.

(e) Leap frog over tables shall be prohibited.

(f) Science Professors shall challenge the Levana at least once a year to a game of basketball, the proceeds to be applied to building a Students' Union.

(g) Professor Ross shall be restricted to one egg-nogg after each rush.

4. Free government railway transportation to the Athletic Grounds shall be provided from Science Hall.

(a) Aeronauts shall not compete.

(b) Those who can run the distance in less than three minutes must walk.

(c) A union station for married ladies shall be built, for which the excavation has already been made.

(d) The corner-stone of the said station shall be laid by G. Y. Chown, B.A., and shall contain the following inscription: Ad Hades cum gymnastico, which being interpreted in the vulgar language reads 'O you Athletics.'

5. That co-education be abolished.

(a) That all men shall be excluded from taking classes intra-murally at this University.

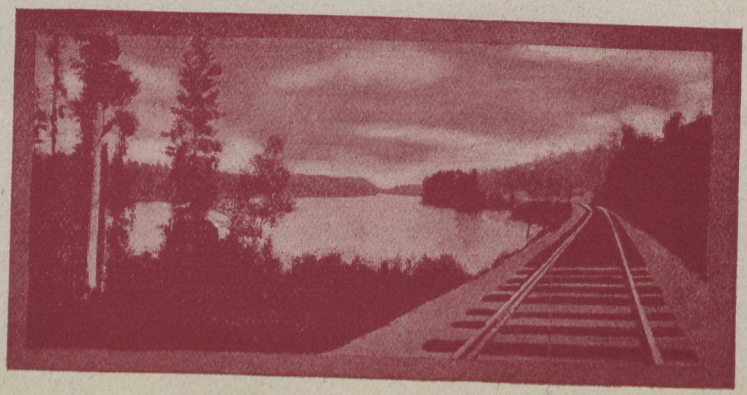
The Education of Rosie.

ROSIE was a sturdy little Norwegian maid of six. In counting her age, she invariably reckoned by summers, a proceeding at which one could not wonder, for the North-western summers must be more pleasant to remember than the winters. Then, too, she seemed somehow to belong to the summer, with her sunny smile for May, her cheeks like wild-rose petals for June, her hazel eyes, like the centres of prairie daisies in July, and her golden-brown hair that shone like the ripe wheat fields in August.

She was a quaint little thing, and quaintly dressed. Her mother must have made her dresses after the pattern of those she had worn herself when a girl in Norway . . . . and perhaps she had forgotten even that. Besides, Rosie had a habit of wearing (and tearing) out her own clothes quite unexpectedly—in these emergencies she had to fall back on her sister's limited wardrobes, so that as a rule her dresses were either too short or too long. But this did not seem to bother her at all; nor did her boots, heavy and clumsy as they were, prevent her from coming in first when she raced with the boys at school.

There was no doubt that Rosie was a tomboy. How she did love to go out and play in the pouring rain! No entreaty could prevail upon her to remain indoors then. When the bell rang for lessons again, she would come in quite radiant (and very, very muddy) with her hair hanging in damp strings on her shoulders. It was quite comical to see the effort she made to be sedate, but her eyes had a look of triumph, and in each cheek was a roguish dimple which she vainly tried to conceal.

Her education—as far as school was concerned—proceeded rather slowly, for each day she forgot, with an engaging smile, what she had learnt the day before. Of one thing she was quite convinced; that certain signs and symbols made certain words, but she never could remember which letters belonged to which word. In the spelling lesson, if Rosie were told to spell "blue," she was quite capable of asking, with the most disarming tone of uncertainty, if it were "y-e-l-l-o-w." At other times she made really brilliant guesses. One day she had spelt at least a dozen words quite correctly, she attempted "sky." She meditated deeply for some seconds, and then announced, with an air of deep conviction, that it was "h-e-a-v-e-n."



In reading, too, she had her days of good fortune and her ill-starred days. It was on one of these that she was deep in the story of the "Little Red Hen." "Who will take this wheat to the mill to be ground into flour? The rat said I'll not' "—is what she should have said. But unluckily for her pride, she read it, "Who will take this wheat to the mill to be ground into a rat." The rest of the school, though used to her vagaries, found this one too much for their sense of humour and a gentle giggle greeted her mistake. Poor Rosie! She crumpled up into an unhappy little heap, shaken by sobs, and with big tears dropping on her book. The next day she did not appear at school. When she did return, the wheat, the flour, and the rat had all been safely disposed of by her little class-mate Robbie.

Between these two there was the greatest intimacy. Robbie seemed to worship at Rosie's shrine with entire devotion. He would have been quite willing—had he been allowed—to spell all her words for her, and work all her sums. Often, when he knew the answer or the word quite well, he would wait, so that she could have the rare delight of answering first.

Rosie's sisters had taught her the familiar and touching verses beginning:

"I once had a sweet little doll, dears."

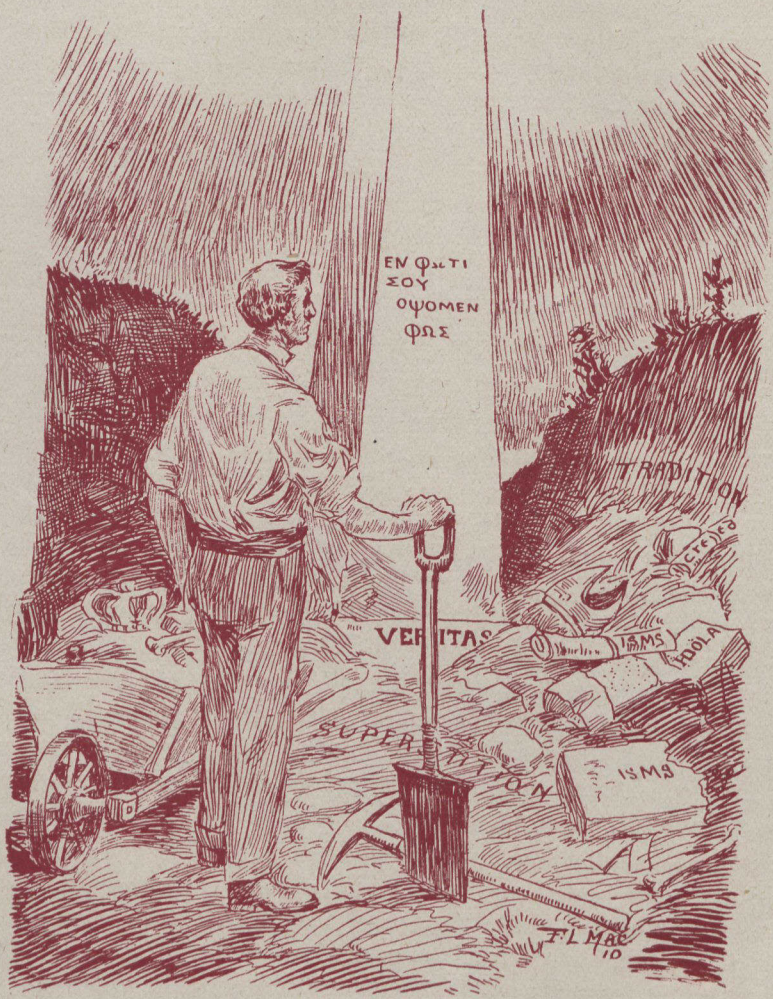
and she would lisp it all complacently in her funny sing-song way, without, I dare say, understanding half of it. Being asked one day about the health of her own doll, she replied that she had none. Gradually it transpired that she had never seen a doll, and had no idea what a doll was, except that it was "something to play with." At their house, where even coal had to be sparingly used, dolls and toys were an unthinkable extravagance. What a pity it is that Santa Claus doesn't know about Rosie!

Neither Robbie nor Rosie—nor, indeed, any of their school-mates—had a very deep or intimate knowledge of the delightful art of politeness. The words "please" and "thank you" were new to them, and even when learnt, were at first considered too good for every-day use. But gradually they crept into the children's conversation.

The school boasted one unusual possession—a pet gopher. He would come to the steps to be fed, and very frequently on warm days, when the door was open, he would come on a voyage of discovery, right into the school-room. He made his home under the porch and as the summer passed, and he grew more daring, he never failed to appear at dinner-time for his share. One day, however, he did not appear at all. Rosie seemed quite worried about it. Finally she took her own piece of cake, and put it at his hole, saying: "Don't be afraid, Mr. Gopher. Please have some cake Mr. darling Gopher," and then in a lower tone, she added, "now he must say 'thank you.' "

So after all there was some progress in the education of Rosie.

A crowd had gathered round the man who had fainted. The inevitable joker asked loudly, "Has he kicked the bucket?" "No," replied a bystander; "he has only turned a little pale."—*Martlet.*



ABOVE AND BEYOND 'AT HOMES.'