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# MASSEY'S MAGAZINE 

Vol. 1.

MARCH, 1896

No. 3


Pcrhans Canadian readers will that-at some of those features in which the contrast is two areat Enclish Universities and all others. Only they are ask that the view here sketched is the view seen some fifteen rears to remember was then in the middle of his undergraduate time; and thing do by one who the same to us in later life as they did in the days when "Pl not always look At any rate, University life, like other life, changes from generation to consul." and a University generation is very short lived; " so soon passeth to generation; are gone."

Most people know the origin of the Universities of Europe, how they sprang from attempts made here and there to provide teaching beyond the range of the monastic and purely ecclesiastical schools; how at first there were no Colleges, no University buildings, no organization, and then how the students from the various countries and provinces united themselves for mutual protection into societies called by the names of the "Nations" from which they came: how, to quote Mr. Goldwin Smith's delightful little volume on "Oxford and her Colleges." "The teachers, after the fashion of that age, formed themselves into a guild, which guarded its monoply.

The undergraduate was the apprentice, the degree was a license to teach, and carried with it the duty of teaching.
are many legends, which for the most part have their source in a harmless desire on the part of her sons to make


DRAWN BY C. M. MANLY AFTER PRINT.

## FRONT OF TRINITY HALL.

though in time it became a literary title, uncomected with teaching, and coveted for its own sake."

About the origin of Cambridge there
out that she is older than her sister. Both were born in the 12th century; and Oxford perhaps a little before Cambridge. In those early days there was
no discipline, and no authoritative provision for teaching, no duly appointed University professors, no lecture rooms. "Instead" says Mr. J. R. Green, speaking of Oxford, though the picture is an equally accurate one of Cambridge, "Instead of long fronts of vencrable Colleges, of stately walks beneath immemorial clms, history plunges us into the mean and filthy lanes of a mediseval town. Thousands of boys, huddled in bare lodrings, clustered in church porch and house porch round teachers as poor as themselves."

The first College in the University, St. Peter's, commonly known as Peterhouse, was founded toward the end of the 13th century. It marked at Cambridge the origin of that college system, which, begun some twenty years earlier at


SOUTH PORCH OF KING'S COLLEGE CHAPEL.

Oxford by the foundation of Merton, has ever since been the chief mark of distinction between the English Universities and the other Universities of the world. There are seventeen Colleges, strictly so called, at Cambridge, founded at dates ranging from 1284 to 1800 ; there isalso an eighteenth-Selwyn-founded a few years ago in memory of the great Bishop, George Augustus Selwyn, which is different in its constitution from the other seventeen and is technically known as a Public Hostel. Each of these eighteen Colleges is a distinct corporation, with a right to acquire, hold and manage its own property; they are distinct from one another for all purposes of internal organization and discipline; the authorities of each decide who may and who not be admitted to join the body whether as undergraduate or Fellow i.e., one who has a personal interest secured to him by law in the government and property of the College. The Colleqes may bo compared to the various Provinces - f the Dominion, each regulating independently the affairs which concern itself alone, while the University, governed by representatives from each College, is like the Dominion itself, whose Government deals with matters which concern the common weal of all alike.

The University accepts as a matriculant anyone recommended by a College, the authorities of whicharesupposed to have satisfied themselves as to the candidate's fitness; some Colleges hold entrance examinations, others do not; and, strange as it seems to those who know only Canadian customs, there is no such thing as a University matriculation examination. Besides the members of the Colleges, there are also some non-Collegiate


[^0]THE "IMMEMORIAL RLMS" IN KING'S COLILEGE GROUNDS.

Students, who become members of the University on certain special conditions.

Teaching is provided by the University for all its members in the shape of Professors' Lectures: each College also has its staff of Lecturers who teach the undergraduates of their own College; and there is also a system of InterCollegiate lectures, by which the lectures given in any particular College are thrown open by arrangement to member's
regulations. Residence in such lodgings with the consent of the College authorities is then allowed to count as residence in the College for the purpose of "keeping the term." One other remark may be of interest; while graduates wear gowns, of which the shape and cut denote their degree, each College has its own peculiar gown for its undergraduates, who thus proclaim, not only from the shape of their gowns the fact that they are in


THE GATE OF HONOR AT CAIUS COLIEEGE.
of other Colleges. Each College is supposed to provide residence for its students, but as a matter of practical experience few, if any, have sufficient room within their own walls. The need for further accommodation has given rise to a system of "licensed lorging houses." Any person wishing to let lodgings to an undergraduate must obtain a license from the University authorities, and promise to obey certain
statu pupillari, but also by means of the color, or the material, or certain distinguishing marks, the College to which they belong.
It is time now to speak of some of the architectural features of Cambridge, and yet it is not easy to know what to say. In spite of Mr. Ruskin's well known strictures, King's College Chapel remains perhaps the chief glory of the University :-

THE OLD (OHRT, TRIVITY (OLIEEAE,
"That branching roof Self-poised, and scooped into ten thousand cells, Where light and shade repose, where music dwells Lingering and wandering ouns loth to die."

Senate House-each has an interest peculiar to itself. But the confession may as well be made at once that the

drawn by C. m. manly after print.
WEST END OF KING's COLLEGE cMADEL.

Jesus College Chapel-one of the oldest bits of Cambridge- the second Court of St. John's, a very fine specimen of Tudor work, the old Court of Trinity, and the
beauty of Cambridge is not to be found in its architecture; it is rather a beauty of trees and lawns, of "immemorial elms" and turf soft and green and springy with
the accumulated care of three hundred years.

Every one knows that there are two great Universities in England, and that there are certain differences between them, though they never regard each other as rivals or even as competitors, except for athletic distinctions. To define the difference that exists is not so easy as to sce that it is there. There are, or have been, various popular delusions about it, some people imagining, for instance, that if you want to become a classical scholar you must go to Oxford, and that Cambridge is only for those who have a mathematical bent; while others have been convinced that Oxford is "High Church" and Tory and that Cambridge is "Low Church" and Whig. There was some truth in this notion once -in the reign of George I., who happened to make a present to the Cambridge University Library about the same time that a troop of horse was quartered at Oxford. A Jacobite at the latter University procluced the following epi-gram:-

The King observing with judicious eyes
The state of both his Universities,
To Oxford sent a troop of horse; and why? That laarned body wanted loyalty.
To Cambridge books he sent, as well discerning How much that loyal body wanted learning.
The Cambridge Whig had the best of it, though, when he retorted.
The King to Oxford sent a troop of horse, For Tories own no argument but force;
On the other hand, to Cambridge books he sent, For Whigs allow no force but argument.
Some one has said that Oxford produces movements and Cambridge men. The first part of the remark is certainly true. The two greatest religious movements of the last two centuries-the evangelical revival of the 18 th and that which is specially known as the "Oxford movement" of the present centuryarose on the banks of the Isis; and the same atmosphere gave birth to that movement toward a larger esthetic culture which, though some of its votaries have brought the terminology and indeed the whole tendency into some discredit by their extravagances, has yet done much to beget and nourish a truer taste than formorly existed in the ranks of English Philistinism. Whether the
second part is equally true is, perhaps, doubtful. A Cambridge scholar at any rate remembers with pride that Erasmus is more intimately connected with his University than with Oxford. In literature he looks back to Spenser and Milton and Gray and Byron and Tennyson; in philosophy, to Bacon and Newton; in politics, to Cromwell and Pitt; and in religion recalls the fact that Cranmer Ridley and Latimer were Cambridge men, that Cambridge reared them and Oxford burnt them.

But, to return to the Cambridge of the present,-it seems, perhaps, strange to those who look at the University with Canadian eyes, to see that, properly speaking, there is no course or curriculum. Rather more than half the students who enter make no attempt to "get honours"; such an one-the "poll" man (so-calied as being one of " oi поinoi") is required to pass during his first year the "Previous Examination," more commonly known as the "Little-Go," which consists of a little Greek and Latin and Divinity and Mathematics, with very slight margin allowed in the direction of "options," a term, by the way, altogether unknown in the English Universities. Then, not earlier than the end of his second year, he must go in for the "General Examination," which is a second and enlarged edition of the Little-Go; and not earlier than the end of his third year, and as much later and as often as the long suffering and forbearance of his College authorities allow, he enters for his "Special." This is, according to his choice, Theology, or Law, or History, or one of several other possible subjects. Whenever he passes-and he may try, if his College makes no objection, till he has sons of his own competing with him, and longer, if he likes-he receives from the University the degree of B.A. Such a degree, so oltained, is not thought much of by those who know, and, therefore, nearly half of the 800 or 900 freshmen who enter every year decide to read for "Honours." A man may read for Honours in Mathematics, Classics, Theology, Law, History, Moral Science, Natural Science, and one or two other subjects; he may, by arrangement, pass the Little-Go before he goes up to


STALLS IN THE CHAPEL, KING'S COLLEGE.

The reading of a large Tripos list, such as the Classical or Mathematical, in which the fates of many were involved, used to be a function of the most thrilling and exciting kind. Of late years the almost complete abolition of the practice of publishing the names in order of merit has robbed the reading of the list of much of its interest. The Mathematical Tripos is, however, still so printed, and to hear it read is an experience not to be forgotten. Everyoneknows that at nine o'clock on a day fixed by statute the list will be read. A few minutes before that hour the Senate House is filled with an excited rowd. On the floor are the undergraduates, who have come to learn their own fate or the fate of their friends. In three sides of the gallery are some privileged visitors, most-
the University, and then he can devote his whole time to one subject. Some men read for two "Triposes," as the Honour Examinations are called, at once; others begin to read for a second when they have got through the first. But, naturally, most men are content with Honours in one subject.
The name Tripos takes us back again to early days-to the time when Students who aspired to the dignity of Bachelor of Arts, betook themselves on Ash Wednesday to the schools and found themselves, we are told," confronted by an 'ould bachilour'" (old in academic status rather than in years), to whom the University for the nonce delegated its functions. The "bachilour" was seated on a threelegged stool (hence tripos) and it was his function to dispute (hence the term urangler) with the candidate and his "father," the delegate of his College, who presented him.
ly ladies. The west end of the gallery is vacant untill a minute or so before the hour, when the Examiners enter by a private staircase. The Senior of the six has a roll of papers in his hand. He takes his place in the mildle and leans over the rail, until the clock of the University Church close by begins to chime the quarters. There is a sudlen hush below, and the strokes of the hour are counted. On the ninth there is one roar below of "Time! Time!" then a stillness that can be felt. The Examiner with the papers in his hand stands erect and proclaims "The Senior Wrangler is Smith, of Blank College." Then every throat that belongs to a member of Blank, or to any friend of Smith from elsewhere, roars in exultation by the space of several seconds; then another hush like the first, and again the voice from the gallery, "Second, Jones, of Dash." Another roar, which Jones'
friends make as loud as the first in order to conceal their disappointment that he is not Senior.

If there was room one might run on and tell of the Degree day and the "Wooden Spoon," and the cheers for the women students who are bracketed with high wranglers (there was once one whose place was "above the Senior Wrangler") ; of Proctors and Bulldogs; of the social life of the place, its breakfasts and bump-suppers, its debates, even its dances; of the relations between undergraduates, of the kindly welcome the Freshman gets, such that many a man looks back upon his "Freshman's year" as the best t:me he ever had; of the river (by courtesy so called), with its "bumping races," which must be seen to be imagined, and which can be seen only at Cambridge or Oxford in all the wide world. Memories of these and of a hundred other things spring up, but may not, for lack of space, be written down; memories, too, of the frienls with whom all these delights were once shared, who talked and laughed across the same table in Hall, who sat side by side in the lecture room, who rowed in the same boat, who walked arm-in-arm up and down the courts, and leaned together on the bridge's parapet, who worshipped in one chapel, entered for the same Tripos, knelt on the same day to receive the coveted degree, and then parted with a
few words, and now are scattered all the world over-some in India, civil servants, merchants; some in Australia, some in the army, some at the Bar, some in the school-room, some fighting poverty and sin in squalid slums, some in quiet country rectories, some sleeping the last long sleep, while some are still to be found "beside the reverend walls, in which of old" they "wore the gown," doing for younger men what was done for them a dozen ycars ago and more handing on the undying torch, kindled into ever. fresh flame, and pouring afresh the sacrenl chalices: hinc lucem et pocula sacra.

Rooted in the middle ages, but flourishing in these later lays, belonging to an old order which nevertheless "changeth, yielding place to new," secure in their practical autonomy, caring nought for party politics, having no fear of any Education Department before their eycs, going on forever while ministries come and go, the English Universitics are becoming more and more truly national, more and more clos ly woven into the fabric of English life, more and more faithful to their splendid ideal, fulfilling more and more completely their great vocation.
E. A. Wreh.


A CAMbridge by-way.


# The Encouragement of the fine arts and the EMBELLISHMENT OF CANADIAN CITIES. 

by hamilion macoarthy, b.C.a.

THE encouragement of the Fine Arts in a country is a sure indication of the intellectual as well as the matterial prosperity of its people; and excellence attained in the higher branches, such as painting, sculpture and architecture, sheds lustre upon its name, and places it in the van of civilization.

Prominentamong the things calculated to make a lasting impression upon the traveller entering a strange city are :-
proportioned public edifices, art galleries and museums; while spacious squares, crescents and circuses, gardens, terraco walks and boulevards, sculptured arches, groups of figures, statues and iountains, are everywhere on ctidence, each lending its influence of form and beauty to dignify and make attractive the city, and at once testifying to the patriotism and civic pride, to which each is an incentive.


ARC DE TRIOMPIIE, PARIS.

The width and area of its streets and open places, the artistic character of its architecture, and the number and beauty of its public monuments. And in so far as these resthetic conditions have been fulfilled will the cultured stranger gange that city's refinement and civilization, and bo content to take up his abode within its gates.

On visiting Paris, London, Berlin, and many other cities of the old worh, one is impressed with the profusion of lofty wires and towers, imposing and well-

In Canada, however, the state of things, as might be expected to a degree, is vastly different. In the early days the natural beauty of the country enabled its pioncers to select sites unequalled for the upbuilding of majestic cities; and although they were not slow to avail themselves of such opportunities, we, coming after them as the rightful heirs to the country, have, in the matter of artistic embellishment, at least, failed to do these cities justice.

In other words, commercial interests


MONUMENT IEE GAMBETTA, JARIS.


PICOMDHLAM (HROUS, LONIMON,
have taken precedence to the Fine Arts, amd questions of art and beanty have been subordinaterl to mercantile considerations. That this state of things is to be expected at first in a new country camnot be denied, but the fact to be deplored is that no attempt is being made in this unromantic and matter-of-fact age to remove the indifference to artistic consillerations that has been rampant so long in this country. We look about us
and behold huge subsidies given to this commercial concern and large loans negotiated in favor of that mercantile enterprise, while art, architecture anl sculpture languish and decline for the want of a similar stimulus. Our thoroughfares are encroached upon and brought within the namowest confines, our parks are cut up into building lots, our fublic suares become obliterated by manufacturing establishments, and


LE OPERA, PARIS.


THE CHILI-EATER, BERNE.
every foot of available building space in the business districts is utilized to the furtherance of commercial pursuits and the degradation of art and beauty.

Tis true that of late years we of the Queen City, have been endeavoring to make atonement for our numerous sins of omission by the many handsome structures that have been raisel in our midst, but there is room for still greater improvement in this direction, as well as in many others.
The two most important links, still absent, in the chain of asthetic adolescence, which prevent Toronto sucessfully maturing into rivalry with its elder sister, Montreal, in matters of art, are:


MARIA-THERESLA MONUMENT, VIENNA.
the want of a pub)lic art gallery and museum, where works of art of standard merit may be permaneutly placed, and the comparative non-existence of public squares or other open places -centres of rest, and relief for man and traffic, where the lungs may breathe, the eye see, and the heart rejoice with conscions pride and power in beholling memorials of the country's history rising in graceful monuments of art.
Respecting the former, such an institution would seem well-nigh indispe nshlo to a city of the size and importance of the second city in Canada, and the wonder is how we have been alle to get along so long without something of the


CASCADE DEI DELFINI, NAPLES.
kind. Every American city of any note has its art museum, or the equivalent thereto-many of them have a dozen such places-and this in a country where, we are taught to believe, the people are so aggressively practical that they do not care for aught but money-making. The cities of Europe, are, of course, rich in museums, art galleries and repositories, free to the public, for the permanent storing of teasured works of art. The benefits derived from such places are

It has been argued, however, that works of art are not appreciated by the vast majority, and that, as a result, they would suffer greatly at the hands of vicious and mischeivous people if left open to the inspection of the general public, While admitting the truth of this assertion to a degree, I nevertheless believe that the people can be taught to look upon such things as being of national impotance and value, and atcordingly learn to respect them. Why
*


NELSON COLUMN, TRAFALGAR SQUARE, LONDON.
manifold. Equipped with high ideals, both in painting, sculpture and other works of design, the student and craftsman has always before him the highest attainments to influence his work and conceptions, a matter of great importance, where excellence of design in manufactures is desired. Such a place is also greatly desirable as a resort for the masses who require the educating and refining influence of art.
should the Anglo-Saxon boy be more prone to injure a work of art when he sees it, than his foreign cousin in Florence or 'Naples, who regards such work with sacred awe and admiration?
Every school-house should possess its works of art, and the child trained to understand and appreciate the true standard of beauty and form, and to regard with horror the morbid and revolting monstrosities in dime museums and


GROUP OF INDIANS IN FRONT OF PARLIAMENT BUILDINGS, QUEBEC.
sensational theatrical posters that disfigure the streets.

It is devoutly to be wished that any movement that may be made for establishing an art gallery upon a good basis in this city may be successful.

The latter subject, namely, that concerning the need of public squares and parks, is a most important one, and one in which every town and village with but ordinary aspirations must be interested.
In our cities, and more especially in Toronto, we have permitted the great mistake to be made of building up the corners of the strects, where the main thoroughfares cross each other, instead of preserving an open square or circle where sculptured fountains could be placed, a few shade trees planted, and where one might find for a half-hour in the middle of the day a quiet diversion from one's business occupation. The many towns and villages throughout the country that are destined to become great and important centres of commerce and trade-cities eclipsing altogether
the Montreal and Toronto of to-dayshould take steps now towasd securing the means by which they can be made beautiful and attractive in the future. Property should be acquired and held by the town corporations to that end, and the people instructed as to the benefits that would accrue from the following of such a course. It is useless to talk of not being able to spare the space, while busy London, with its cramped and crowded conditions, is able to find room for its numerous squares and circuses, its many parks and public places; while Paris has its boulevards and spacious avenues, and the many other populous metropolitan centres, too numerous to mention, have their embellished open places and promenades.

One of the chief charms and greatest delights to a Canadian or American tourist in Europe is found in the beautiful fountains, obelisks, sculptured vases and groups of statuary shown to so great an advantage in the splendid parks, avenues and open spaces with which the cities of the old world abound


Maissoneuve monument, montreal.

In turning to Quebec we find that Lower Canada has done more than any of the other Canadian provinces to promote the interests of the vocations in which men like Leighton and Foley became famous. The inherent love of form and beauty possessed by the French has found expression in the splendid monuments erected by the people of Lower Canada to their national heroes and statesmen. In the city of Quebec, the Lower Canadians have not forgotten to commemorate the deeds of heroism and sacrifice of men like Champlain, Wolfe, Montcalm and Montgomery, whose names have become household words in the country.

Montreal may claim pre-eminence in matters of art, however; its cathedrals, public buildings, colleges, banks and mercantile houses are splendid examples of beautiful architecture. The parks and public squares are numerous, and it rejoices in a permanent art gallery and museum of casts, containing some excellent specimens of paintings and statuary by such famous men as Reynolds, Gainsborough, Wilkie, Rosseau, Troyon, Diaz Dallfigger and Constable.

Within the past few years several splendid monuments have been erected,
notable among which are those to Sir John A. Macdonald, and Maissoneurre, the founder of the city. These, together with the Nelson column, and the many open squares, speak in eloquent terms of what can be done to decorate and make attractive the most commercial of cities.
While Montreal is in this respect a way a head of Toronto, she is, nevertheless, far removed from what might be expected of her as being the principal city of Canada.

What I would like to see in regard to future Canadian cities is, that which may not be practicable in those already matured, namely, provision made in good time whereby each can be embellished by sculptured fountain, marble column and equestrian statue, placed in its open squares and commemorating the great national events in the country's history. Each should have its Trafalgar Square and Nelson monument, its Hyde Park and Place de Concord, its Arc de Triomphe and its Maissoneuvre monument; each preserving to posterity some tangible evidence of the regard which, in the natural order of things, it must experience for its distinguished sons to come.

Hamilton MacCarthy.

## AT DARK.

IKNOW how o'er the hill the sun is sinking, With red beams on the snow;
Up the slow eastern slope the dark comes creeping;
The swamps lie black below.
What matters Light or Dark? Enough for me, By Night or Noon, my Heart remembers Thee.

I know how o'er the fields the dusk is falling, With gray lights on the snow;
Up the long road I tread no more, forever
The last rays westward go.
I know not Light or Dark; I only see
Where Thou art not, there Shadow waits for me.
I know how o'er the hill the moon is shining, With silver on the snow;
Across Thy brow the mystic rays are stealing;
Vague shadows wait below.
What matters Light or Dark? Enough for me, I know no light beyond the Light of Thee.

Frank L. Pollock.

# THE SIGNIFICANCE OF THE LOW WATER LEVELS. 

HY PROF. 1. P. GOIEMAN.<br>Prajensor of Geology, Toronto Lniversity.


$T$ is hard for us to believe that the splendid fresh water seas, which we call the Great Lakes, can undergo any important change. They seem so secure and rightful a possession, that we look on the lowering of their waters three or four feet beneath the usual level with a certain irritation, as if nature were treating us unfairly in making us adjust our harbors to a new level. The illea never enters our minds that these lakes could be destroyed, or so swollen as to flood every city on their shores; and yet the geologist has proofs that these broad and beautiful sheets of water represent only a fleeting stage in the series of episodes making up the history of this part of America.
Not only has Lake Ontario more than once brimmed over banks a hundred and fifty fect above its present shores, but it has been at least once and probably twice or thrice wiped completely out of existence; and all this within quite recent goological times, that is, since the beginning of the Ice Age; and much the same is true of the other lakes of the St . Lawrence system.

The history is not so clearly written that "he who runs may read"; on the contrary one must examine into the matter with something of the detective's patient skill, following up the clues afforded by a broken shell, a beetle's wing, a bit of rotten wood in a clay bank, a scratched pebble here and a crumpled bed of sand there; until at last the web of circumstantial evidence is complete, and takes shape before our eyes.

It is a fascinating study, but the limits of a magazine article make details unadvisable, so that results must be dealt with rather than methods of research. Most of the information used in this article has been obtained by Dr. G. J. Hinde, formerly a resident of Toronto, and the present writer; but the works of Dr. Spencer, Sir William Dawson and others have also been drawn upon.
The most legible of our documents is to be found at the Scarboro' Heights, of which a sketel is given. In plan A. the boulder dotted bed, which rises from the lake at Victoria Park, reaches a height of nearly a hundred and fifty feet, plunges suddenly down to the lake only to rise again as sudtenly, and finally sinks again, to the lake level at Highland Creek; a sort of cupid's bow nine miles in length. Another dotted band caps


The best record of the history of Lake Ontario is to be found in the picturesque cliffs of the Scarboro' Heights, and the ravines of the Don and the Humber, bits of attractive natural scenery too little valued by Torontonians, but full of significance to the student of glacial geo$\log y$.
the summit of the heights three hundred feet above the lake.

In nature these dotted bands consist of boulder clay, the carpet of confused clay and stones spread out irregularly over a country conquered by a glacier, a sort of trail of the icy serpent by which the geologist can track the moyements of the
monster after he has retreated. There are three of these beds of boulder clay to be seen about Toronto, though the lowest is out of reach beneath the lake at Scarboro', and each of them bears convincing evidence of a tremendous act in the drama of the world's life in this region, when a chill ice monster gathered its forces in the fastness of Ladrador, snows heaped on snows, till they lay to a depth of ten thousand feet in the north and crept slowly southward and westward, overwhelming the continent, driving all living beings to more genial regions, filling the beds of lakes and rivers and dragging everywhere the spoils of rock and soil it had gathered in its previous course.

But the scene changes. The warm south wind and the sun at length gain the upper hand and the ice mass melts away faster than it is replenished. It gradually retrcats toward its northeastern home, freeing the earth from an incubus and allowing the advancing hosts of plants and animals to occupy their old territories.

Each bed of boulder clay marks an invasion of the ice, while the beds of stratified sand and clay between them prove interglacial periods when the waters of the lake were busy spreading out the materials brought down by swoollen streams, entombing here and there bits of wood and bark, or insects or shellfish, to give us an idea of the life of the time.
each retreat of the ice there was a stage of high water ; the first time the water rose at least a hundred and forty feet above the present level, for beds of sediment were formed at that height; the second time, two hundred and eighty feet higher than now ; and the third time, a hurdred and sixty. The last water level left its mark as a well defined beach with sand bars and cliffs. as may be seen along the foot of the Davenport ridge to the north of Toronto, or the grand cliffs near Hamilton. This line of old beaches has been traced by Dr.Spencer from Trenton to Hamilton on the north shore, and on the south as far as Queenston, while Professor Gilbert has followed it along the American shore.
It will be noted that any of the highwater stages would have flooded Kingston, Toronto, Hamilton and a dozen other towns and cities on the north and south shores of the lake.

How are we to account for these tremendous changes in the lake level? For the last episode, which Dr. Spencer has named the Iroquois water, three theories have been formed, and probably the two former stages of high water may be accounted for in the same way. According to one theory the earth's crust was heaved up in the neighborhood of the present Thousand Islands, thus holding back the water and raising its level. A second theory, which is held by Dr. Spencer, supposes that the whole of eastern Canada was sunk beneath its present


PLAN B. -THE IROQUOIS WATER.

Lake Ontario, then, has been elbowed out of its bed and destroyed more than once by the invasions of glaciers. After
level to a depth of some four hundred feet, allowing the sea to flow inland so that the site of Montreal was submerged
and the Gulf of St. Lawrence stretched to the foot of what is now "the Mountain," at Hamilton.

A third theory, which is the one most generally held by geologists, and, to my mind, the most probable one, assumes that the retreat of the glaciers of the Ice Age was arrested for a while in the neighborhood of Kingston, and that a wall of blue ice lay across the foot of the lake, damming its waters until they rose high enough to flow off by a new channel toward the Hudson.

There is one very remarkable circumstance to be mentioned regarding the old Iroquois water. Its beach must have been horizontal when it was made, but Dr. Spencer has shown that it is now tilted out of position. It stands a hundred and fourteen feet above Burlington Bay, a hundred and sixty feet above Toronto Bay, about two hundred feet above the lake at Scarboro' Heights, and over four hundred feet above the Bay of Quinte at Trenton. How could staid mother earth indulge in such a freak as this?
Probably the best explanation is to suppose that the earth's crust rests on a somewhat plastic substratum. Load it down with five thousand feet thickness of ice and it sinks under the burden. Thaw off the ice and it slowly rises again. Since the ice thawed away first from the south-west end, that corner of the raft bobbed up first, while the north-east end was still held down.
Then the Iroquois lake cut its shore line.

When the rest of the ice finally melted, the north-east of Canada rose in its turn, and all the beach lines were tilted out of place. Mr. Warren Upham, who is gifted with imagination, even thinks that this part of the once ice-laden continent popped up too far, and is still oscillating, trying to reach an equilibrium! Dr. Spencer holds, however, that the uplift is notyet ended, and that castern Ontario is still on the rise.

One curious inference from this "differential uplift," is, that the trough of Lake Ontario was tilted down so far at first as to leave the Hamilton end high and dry. It was only as the Thousand Island end rose towards its present posi-
tion that the lake backed up, filling the basin in which we now find it.
It should be remembered that all these strange events in the life history of Lake Ontario, and the similar events in the history of the other lakes, took place in times that the geologist looks on as very recent, within the last one or two hundred thousand years, at least; the last episode, that of the Iroquois water, probably within the last seven thousand years, and possibly within half that time.

While it is a comfort to think that these catastrophies of ice and flood took place some time ago, it is disquieting to reflect that what happened in the past may happen again in the future ; and the steady fall of the water in our lakes and the St. Lawrence brings it sharply home to us that changes may take place in our day. When vessels can no longer enter our harbors with full cargoes, the business man begins to think that he may have some interest in changes of waterlevel as well as the geologist. Calculations have been made, showing how many millions of dollars of loss will result from the lowering of the waters a given number of inches, and the prospect of a further lowering is decidedly disagreeable.

The business man may be reassured, however. There is no prospect, from the scientific side, of any important change within a geologically short time, a few hundred years, for instance; so that corner lots on good business streets in our cities need not be sold hastily at a sacrifice.

In the papers one sees alarmist statements as to the effect of deepening the channels between the lakes and the sea; but this can have no effect unless the deepening takes place at the immediate outlet of the lake, in the case of Ontario at the Thousand Islands. There is no evidence that the St. Lawrence at that point is deepening its channel appreciably. No amount of work done in removing obstructions lower down the river can affect the level of Lake Ontario.

Of course, the diverting of a considerable amount of water by the Chicago drainage canal would have its effect on all the lakes and rivers below. Aside from such artificial causes, there is no
reason to suppose that their waters are likely to sink below a certain point fixed by the fluctuations of the rain supply of the region as a whole.

Mr. Stupart, Director of the Meteorological service of Canada, is working at this subject, and is of opinion that changes in water levels are directly connected with changes in the annual rainfall, which is not likely to vary beyond certain limits; so that the water may be expected presently to rise again.
deep draught ocean steamers find increasing difficulty in coming up the river with a full cargo, no doubt have their cause in the varying amount of water discharged from the Great Lakes. When water is low in the reservoir the current that flows from it must be diminished, just as it must rise again when the reservoir is filled.

Lower down on the St. Lawrence, where the tide flows, and on the coasts of our Maritime Provinces, there are


It is less than half a century since careful records have been kept of lake levels, and during that time the water of the lakes has never been so low as at present; but there is evidence thatit was still lower less than a hundred years ago.

Mr. Archibald Blue tells me that, toward the beginning of the present century, settlers took up farms, built houses and planted orchards along the St. Clair flats on land that sixty-four years ago was flooded by the rising of the water; and that. the dead orchards and deserted houses could be seen still partly flooded a few years ago. This would indicate that the water may be comparatively low for a series of years and then comparatively high; the whole range being about nine feet between extreme low water and extreme high water, so far as known. Whether these changes take place rythmically as parts of a great cycle requiring many years to complete, it is too soon to say. Generations will have to pass before there are data enough to settle such a question with certainty.

Changes in the level of the St. Lawrence, such as have disquieted the merchant princes of Montreal, whose
evidences of changes somewhat like those of the lakes, but probably not always produced by the same causes. Sir William Dawson, and others, have described old beaches with marine shells found five or six hundred fect above sea level on the flanks of the mountain at Montreal, as well as here and there along the shores of the lower St. Lawrence; direct proofs that the land once stood that much lower, but has risen to the present height. On the other hand, the Chignecto ship railway excavations have disclosed peat beds buried in the sand many feet below the present tide level, demonstrating a sinking of the land surface in that region.
To discuss the question of how these changes in the relative position of land and sea are related to the variations in level of the Great Lakes during, and after, the Ice Age, would, however, lead us too far.
That another Ice Age may come, blotting out our cities and leaving only traces of our civilization in obscure inter-glacial beds; and that other changes in water level may flood the lowlands or leave our ports high and dry and far from lake or sea, is not at all impossible; but probably
good mother nature will give us a few centuries of warning, so that we may arrange our affairs in time. For the present we may expect the law of aver-
ages to hold, so that the years of low water in our lakes and rivers will be balanced by years of higher water in the not distant future.

A. P. Coleman.

## THE RELIEF OF FORT VALIANT.

## BY STUART LIVINGSTON:



HAD been a day of despair at Fort Valiant. From early morn the hot July sun had poured a flood of fire upon the little post as if to consume it from the face of the plain. At noon when the shadows were furled close in against the heated walls of the quadrangle the sentry crossing from the shelter of the gate house had fallen in his tracks with his arms stretched out, as if in mute appeal, towards the river. It was only one less to be dealt with by the enemy. His comrades had dragged the body away with scarcely a word, such apathy was upon them all. But with the lengthening of the shadows, as the sun fell hour by hour slowly away towards the west, might have been heard indistinct and scarcely formed mutterings among the men. As they dragged themselves wearily about on the rounds of duty, their rusty uniforms hanging in loose folds upon their emaciated frames, in some way the word crept about among them like a whisper of evil, that today was the last day of the siege, and tomorrow they would accept the enemy's terms and surcuder with or without the captain's consent. That this meant without it every man of them knew.
Severed from all communication with the outside world, and cut off from the river,-heat, thirst and starvation had wrought a work which the bullets of the Indians had been powerless to effect. The morale of the command had been undermined.

Evening was coming on, and the wide, dim, mysterious twilight of the plains was slowly creeping up from the eastern horizon.

Two men were crossing the quadrangle together.
"After all, Captain, it's not such a very important post," said the Lieutenant tentatively.
"My dear fellow," exclaimed the other, decisively, " the importance of the post has little, if anything, to do with it ; it's the fact of surrendering while any one of us is alive that I can't and won't get over."
"But, Captain-"
"No, Jack, don't let's talk about it; I can't do it."
"Well, all I can say is they'll do it themselves, and as far as I can see it's going to be to-morrow. Wilson says the men have decided upon it. They're not going to say anything to you till the time comes-as he put it, they know it's no use."
"Is Wilson with them?"
"He didn't say, but I don't think he blames them much. They were never quite the pick of the service, you know, or they wouldn't have been sent to this forsaken place, and, as Wilson says, they've done already as much as mortal man can."
"Mortal man, Jack! Why was man made mortal if it wasn't so that he could die?"

The other made no reply, and together they enterel the house.
"Come," said the Captain, "sit down here, and we'll discuss the matter; but there's only one way out of it that I can see."

He walked over to a shelf at the side of the room and lighted a lamp. As he did so they were both startled somewhat by a sound in the room. Glancing in the direction from which it had come, they saw the form of a young man in the uniform of a private stretched out upon a couch next the wall.
"Oh," exclaimed the Captain, with a bitter laugh, "that's Charlie. I had forgotten about him."
"Asleep?"
"No, drunk!"
"Drunk?"
"Yes, broke out again last night, or broke in, rather."
"Why, where did he get the stuff?"
"Get it? He broke into my locker and stole a bottle I had been keeping for the men in case of emergency. Nice kind of a brother, isn't he? and a twin brother at that!"
He walked over and held the lamp so the light fell upon the soldier's face. The Lieutenant joined him.
As they stood looking at the sleeper, he rolled again restlessly upon the couch, and opened his eyes. When they caught the light they blinked blindly up at it for a moment, then closed weakly, and he lay still again.
The face, though thin for want of nourishment, was slightly swollen, and showed the effects of long continued dissipation. The features had evidently been handsome once-handsome as were the strong, manly features of the Captain, but now what a wreck remained of it all!
"He is the dead image of you, Captain, isn't he?" remarked the Lieutenant.
"Yes, more's the pity," replied the other, " and he's worked it many a time to my sorrow. You see, he's just my height, and before he became so besotted was something my build, and many's the score I've had to pay for it."

He turned back again to the table.
"Jack," he said presently, " you know I'm not the kind of man to break up easily, weak as we all are since this famine set in, but this thing in Charlie has been just eating the heart out of me all along, It killed mother ; it broke her heart."

The figure on the couch moved; the
head was raised a little; the eyes were wide open.

Neither man at the table noticed this, and for some moments there was silence between them. Then the Captain pushed the lamp farther from him, as if its hight troubled his eyes.
"Yes," he repeated, "it broke her heart. Charlie was always her pet-she liked me, you know-she was a good mother ; God never made a better, but it was never quite the same with me as with Charlie. Bcfore we entered the service he had been a little wild, but it was afterwards that the rcal trouble began. We were stationed far apart, and I heard little or nothing of it all. Mother had used my father's influence to have Charlie as near home as possible, so much of it took place under her own eyes, and still she believed in him. It was a weakness, but he would overcome it; he was true and good at heart, she said, and some day would do something noble, something that we all would be proud of. Oh, Jack, what hearts God gives to mothers! And so it went on, and she kept her faith in him while he went from bad to worse, but when he was degraded to the ranks, that killed her."

He was silent for sometime, as if overcome w: th emotion.

The head sank back upon the couch again, and it may have been only the flickering dimness of the lamp, but something seemed to glisten for an instant in the bloodshot eyes.
"Never mind, Captain," exclaimed the Lieutenant, as he rached across the table and grasped his comrade's hand, "if luck takes a turn our way, and we ever get out of this hole that we're in, perhaps between the two of us we can straighten him up and make a man of him."
"No, Jack, no ; it can never be done, there isn't a spark of manhood in him. I obtained this command so as to get him away from his associations, and there's the result. Well, we have no further time to waste discussing it now. Let's consider the situation. When are they going to surrender?"
"At daybreak, Wilson says. You may shoot them, but you can't hinder them alive."
" At daybreak," repeated the Captain musingly, "at daybreak. Let me see ; yes, there would be time. Now here's what I propose to do. I might have tried it before, but I thought every day help must surely come when it was so long since they had heard from us. I am going to get through to-night to St. Hilaire."
"St. Hilaire! Why, Captain, you couldn't run a hare out of this place without getting it shot!"
" Well, I'm going to-night, and if I'm shot I'm shot; it's only the difference of a few hours at best."
"Yes, but if you should manage to get through the Indians-you can't do it; it is impossible-but if you should, you couldn't walk it ; you're too weak. Why, man, you're half starved!"
"Perhaps; but I could ride it."
"Ride it! Where's the horse?"
"At the Mound. Louis would give me a horse, and ask no questions. Yes, and keep his mouth shut, too. He has done more than that for me before now."
"You saved hislife once, didn't you?"
"No, his child's. Yes, I shall get a horse from Louis, and then on to St. Hilaire. The last I heard Gresham was there; and if he isn't, there's sure to be someone. I believe we could get back by daybreak. In any event, I feel sure the . men would wait if there was any hope."
"You'll be shot before you've gone fifty yards," was the only reply vouchsafed by the other.
"Well, I'm going, and I'm going now. We had better get Wilson, so that you and he can both see me start, and satisfy the men about it."

He arose, and, taking the lamp, stepped over to the couch. Its occupant appeared to be sleeping soundly. He stood for a moment looking down at him. "Poor Charlie," he said beneath his breath; then he blew out the light, and joining the Lieutenant, went out of the house.

Scarcely had the door closed upon them when the occupant of the couch sat up. He dropped his head in his hands, and, with his elbows on his knees, sat for sometime motionless. He was checking over the ledger of his life. No sound broke in upon the stillness of the room. save when a word or half incoherent
sentence fell unconsciously from his lips. Harry was right, what a wreck he had become. All his powers undermined. and his opportunities wasted. What fairy castles he had built when a boy of the great things he would do; and mother had believed them all. Yes, and believed them when everyone else had given him the cold shoulder. When his best friends had turned from him with aversion, he was still to her the innocent boy that ran barefooted about the old farm garden. What a quaint old fashioned garden it was where the winds came down from the blue sky and bore the sweet breath of the flowers in at the open windows. And the fields; how wide they were! It was down in the meadowfield that the spring bubbled up pure and sparkling. Surely, there was never water anywhere so cool and sweet as that. And the tall wide-spreading elms, and the birds; what a quaint little fellow that was-the one that would hop right into the great farm kitchen, cocking his head upon one side, and caring not a whit for anybody. The soldier laughed a little as he thought of this. How odd it was, he hadn't remembered that bird for years. Ycs, the kitchen was a great wide, cool kitchen, and many a time when he had come in tired from play mother had snatched a minute or two from her duties to tell him a story. What storics mother could tell. And Sunday evenings, when the fields were still and the house was st:ll, when the country folks had gone by to the church, and the bell had stopped ringing in the village, mother was wont to tell him storics then ; but he had forgotten most of them. There was one about a great king he had liked, and others; yes, and the one about the three crosses outside the city wall; he had heard that since, aye, and langhed at it, too, but no one ever had told it in just the same way as mother. And two of them were thicves, pretty nearly as bad as he was. What a hush there would always be when mother told that story. And he had killed her. Harry had said so, and he knew it, anyway. And now Harry was going to die, too, and alone.

He sprarg to his feet,
"Alone! No, he shan't go alone!" he
muttered half aloud, and opening the door went out.

As he did so there was a shot on the north side followed by a cry of pain; then he heard Harry's voice calling for help. A hurrying of feet to the north gate; a few scattered shots; a little procession returning with the wounded Captain, and all was quiet again,

No one saw a form slip noislessly out at the south and vanish into the darkness of the plain. And no one heard that single word which was stifled between his clenched teeth almost before it was uttered, "St. Hilaire."

They bore the captain into the house, and laid him upon the couch.
"I don't believe it's much more than a scratch, "he said trying to smile, "though I'm so weakened by this starvation process that I don't seem able to stand anything. I wish, Jack, you'd take a look at it, and report the damage."
The lieutenant did so, and his face brightened.
" You're right captain," he said, "it's only a flesh wound, as far as I can make out, and ought to be all right in about a week if we could only give you something to live on in the meantime."
"I'm afraid I won't get the week, let alone the diet," replied the wounded man, and added, "now you go off and sleep; you'll need it for to-morrow."
"No, I think I'll stay; it will hurt more or less, so you can't sleep, and if I stay we can talk matters over and perhaps strike some plan,"

The captain made a weak protest, but the other drew up a chair alongside the couch, and sat down.
"Where's your brother?" questioned the lieutenant, as for the first time he noticed his absence.
"Gone to try and steal another bottle," replied the other wearily.

And so the long hours of the night dragged slowly by. Occasionally the captain dozed a little, but more often he was a wake and watchful.

It was when the dull square of the window was first beginning to brighten with the dawn that the captain started up as if list ning.
"What is it?" questioned the lieutenant.
"I thought I heard a shot. Listen!"
The other was on the alert in an instant.
Yes, there it was again, two sharp rifle shots in quick succession.
The lieutenant sprang up and hurried out of the house.
The captain, after waiting for some minutes, unable longer to restain his impatience, arose and went over to the window. Outside some of the men, accompanied by the lieutenant, were carrying a wounded soldier toward the house. When they reached it they shoved the door open and brought him in.
"It's your brother," whispered the lieutenant.
"Charlie!" exclaimed the captain.
"Yes. Put him there," directed the lieutenant, and then he set about examining the wound.
"He can't live, captain," he said, as he finished his investigation, " he's shot clean through the breast."
The captain, who for a moment seemed overcome, now questioned him rapidly.
"Where was he? What was he doing? Who shot him? Who"-
"Don't know, They heard the shots, and found him outside; that's all we know about it."

The men had by this time retired, and the two sat down beside the couch. It was some time before the wounded man regained consciousness. When he did, and saw his brother, he smiled faintly, and his lips moved as if to speak. The Captain bent over to listen. It was only a whisper.
"They're coming, Harry! They're coming! Gresham's bringing enough to lick the crowd of them!
"Gresham! Where have you been?"
"St. Hilaire," came like a breath between the soldier's lips, and then he was still, and his eyes closed.

The lieutenant arose, and went out to pass the word to the men. His return aroused the dying man.
" Louis thought it was you, Harry, and gave me the horse. Gresham wanted me to wait for him, but I knew they would surrender at daybreak."
"And you did it alone. Oh, Charlie!" exclaimed the other with tears wet upon his face, " what a brave heart!"

A smile flitted again across the soldier's
face. He lay quiet for some minutes, his eyes fixed wistfully upon his brother, then he said faintly,
"Harry, do you remember that old story mother used to tell about the three crosses outside the city wall? I wish you could think up some of it to tell a fellow!"

The captain was unable to speak; he turned away and covered his face with his hands, but the great drops fell fast through his fingers.

The silence remained for some time unbroken. Then the dying man rolled restlessly upon his couch, and said almost inaudibly,
"I suppose it's a pretty good while back to think up, but it seems so near some way."

Suddenly the long clear notes of a bugle call were borne to them faintly
upon the wind followed quickly by the sound of rifle shots.
"I'll be back in a minute, captain," said the lieutenant, and disappeared quickly through the doorway.

At first the soldier seemed not to notice the firing, but as it became louder and more furious he turned his head as if listening

All at once when the fusilade was at its height it ceased, and a wild cheer loud and long rang out upon the air.

At the sound of it the dying man's face lighted up; he reached feebly for his brother's hand, and whispered,
"I did it, didn't I, Harry, old man? Do you think mother will know?"

When a few minutes later the lieutenant entered to report the arrival of the reinforcements, he found the soldier dead upon the couch, his hand still clasped in his brother's hand.

Stuart Livingston.


## LIFE AND DEATH.

WHAT growth, what torment, or what bliss Beyond the doors of Death may be, Thou knowest not, but thou knowest this :

Thy soul alone thou tak'st with thee.
He only then is safe, whose life Is given to the spirit's weal, Who learns, above the passions' strife To house himself in thought, and feel;
For what shall be thy help beyond,
If the starved soul, inept and blind,
Go grieving for the baser bond,
The pander it hath left behind.
Therefore guard well the little span,
And tend thine angel day and night,
Till all that makes thee most of man
Grows easy in his sovereign light.
And at the last when Death assails,
Twill be but rounding forth the whole,
The melting of a mist that veils
The gracious stature of the soul.

# THE PROGRESS OF CURLING-THE ROARIN' GAME. 

BY ALEXANDER FRASER.<br>Mllustrations by F. H. Brigden.



OULD the reader be transported in imagination, to a curling srene such as that so inimitably described by Barrie, orthatis often to be seen on the famous Duddingston Loch, he would easily realize the fitness of the accepted sobriquet of the "Roarin' Game," and why that game has so thoroughly taken hold upon the love and enthusiasm of its votaries.

Duddingston Loch, a small, beauti-fully-set sheet of water lying at the southern base of Arthur's seat, near Edinburgh, we may suppose, is covered with ice. A cottage or farm house dots the rising slopes. The antique kirk, with its low square tower, the manse surrounded with firs and evergreen scenery, and the Hangman's Craig, are the historic and pleasing features of the open, undulating landscape. Nature, robed in her snowy garb, is impressively silent, and, save for the low soughing of the wind through the trees, there is, as yet, loothing to distract the reflections which a rural winter scene is fitted to inspire. And such reflections have much to do with the love felt for the game. The impressions made upon the mind by the stern, picturesque, or beautiful surroundings, harmonize with the feelings produced by the play. But the silence is not of long duration, for, in lively
groups, the curlers arrive on the scene. Gradually the margin of the loch is occupied by spectators, whose interest in the sport is almost as keen as that of the players themselves. The crowd is usually a motley one, for

> "The tenant and his jolly laird, The pastor and his flock"
are there. Curling is a great leveller; social distinctions are left behind. The banker and his clerk, the manufacturer and his working mechanic, the professor and his student, the professional man, the merchant, the farmer, mingle freely and fare alike. On the ice the restraints due to the inequalities of the rich and the poor are unknown. There is nothing to hinder the hearty "flow of soul" drawn out by the game.

But the ice has been already " sooped" clean and measured, and the skips are exhorting their rinks. And now the scene is changed. Instead of the quiet, sleepy countryside, you have life, bustle, animation, and a din of voices making the welkin to ring. Positions have been taken, and, as Ramsay says,
"The carling stane slides murmuring o'er the icy plain."
It is the noise of friendly strife, for however much in earnest the contestants may be, good feeling and fellowship is the guiding principle in curling. The stones, as they skip over the ice, make a grating, roaring noise, the shouts of the skips, the cries of approval and disapproval by the players are contagious, and the crowd of spectators are drawn into the excitement. The scene is admirably described by Barrie thus: Says Gavin Dishart,-
"What a din they make! McQueen, I believe they are fighting!"
"No, no," said the excited doctor, "they are just a bit daft. That's the proper spirit for the game. Look, that's the Baron Bailie near standing on his head, and there's Mr. Duthie off his head a'thegither. Yon's twa weavers and a mason cursing the laird, and the man wi' the besom is the Master of Crumnathie."
" A democracy, at all events," said the little minister. "By no means," said the doctor, "it's an aristocracy of intellect."
Again. Dr. McQueen and Mr. Duthie, the parish minister, have been chaffing each other on their prowess as curlers.
"I'll play you on Monday for whatever you like," shrieked the doctor.
"If it holds," cried the minister, "I'll be there the whole day. Name the stakes yourself. A stone?"
"No," the doctor said, "but I'll tell you what we'll play for. You've been dinging me doited about that eldership, and we'll play for 't. If you win, I accept office."
"Done," said the minister recklessly.
Curling in Scotland dates back to at least 1600 A.D., but the probability is that it was a popular game there at a much earlier period. Its origin is involved in mystery. Some writers, by deriving the nomenclature from Teutonic sources, have placed the cradle of the game in the low countries, crediting the Flemings with having brought it to Scotland. This is a case in which "doctors differ" so emphatically that derivation cannot be accepted as satisfactory evidence. Two words will suffice as examples, viz., "Curling" and "Bonspiel." Among the derivations given for the former are Teutonic Kroll-en, Krullen, whence English "curl"; the great art of the game, according to Jamieson, who gives this derivation, being to make the stones herd in (or curl) towards the mark, when it is so blocked up that they cannot be directed in a straight line. Then it is identified with Teutonic Kluyten, Kalluyten, and with the French Crosl-êr, Croul-er, to move fast. So diligent have enthusiasts been in tracing the game that the name has been derived
from the Anglo-Saxon word ceorl, a peasant, on the ground that curling was a widely-diffused and popular game. Of a piece with this deduction is the theory deriving " bon-spiel" from Belg. bonne, a village, district, and Belg. spel, play, being the play in which one village or district is ranged against another. Here the derivation is made to fit the theory and the theory to fit the derivation with surprising ease, but no light is thereby thrown on the source of curling. If the Flemings did know the game, it is strange that no trace of it has come down to us. From the time when it is first mentioned in Scotland, and in other countries, curling is found multiplying its votaries and spreading its conquests; it would be a solitary instance if, in the case of the Flemings, the analogy had failed; that it had flourished among them long ago, and then passed quite out of sight for ever. But the best authorities of the present day concede the honor of its origin to Scotland, in the south-western part of which it has been practised for generations, and over whose whole people it has now thrown the glamor of its fascinating wiles. For England or Ireland no claim has been set up. Writing in 1722, Pennant, the distinguished British traveller, describes the game, and states that it was a favorite sport in Scotland, while in England it was unknown. But it has taken root in England, too, and its history there, though comparatively brief, is most creditable. There are now from thirty to forty clubs in England, some of them dating back to 1820 , and some of them having large memberships. It is evident that curling can thrive forth of its native land, and that the perfervidum Scotorum is not necessary for its nourishment. It is not known when curling was introduced to Ireland, but during the first quarter of this century it was in a languishing state in the Green isle. It was revived by Dr. Cairnie. A club was formed in Belfast in 1839, and, although the climate being generally mild, is not very propitious, the roarin' game is popular while the ice "holds."

The game has taken deep root in Canada from the Atlantic to the Pacific, connection being maintained with the Royal

Caledonian Curling Club of Scotland, as corresponding clubs or associations. No winter sport is more popular in Canada, and the special feature of the game is that it is played in large covered-in rinks, the advantages of which are manifold. The ice can be kept in better condition in the rink than in the open air, and consequently the chances of the game can be the more accurately calculated. The facilities for electric lighting afforded by a building permit good playing at night, a matter of the greatest importance for young men who cannot conveniently leave their offices during business hours. Then there are the attractions of club life, where old and young foregather in friendly company. The city of Toronto is the great curling centre of the American continent. Its rinks are magnificently constructed and costly buildings, and the clubs have over six hundred members on their rolls. In the United States the game has had varying success. The eastern States have not proved a kind nursery for the game, but in the western States rinks are rapidly springing up, and the prospect for the future is bright. The eastern limit, beyond which the enthusiasm has not waned, is Buffalo, where there is a vigorous curling fraternity and many skilful players. The Grand National Club is the body with which the clubs in the United States are affiliated. Then there are curling clubs in Norway, Russia and in far New Zealand ; the swish of the besom and the dirl of the "stane" being, indced, very dear to the sportsman at the Antipodes.

The evolution of the curling stone has been quite as remarkable as the development of the game. Three varieties are noted which mark the progress of the improvements effected: 1. The Kuting stone, Kutty stane, or Piltycock. 2. The rough block with handle. 3. The polished and circular stone.
(1) The first pattern had no "handle," but a roughly hollowed niche for the fingers and thumb.
(2) In a rare and interesting work entitled, "Memorabilia Curliana," the author says: "The stones upon the Lochmahen ice were of a wretched description enough, most of them being sea stones of all shapes, sizes and weights.

Some were three cornered, like those equilateral cocked hats which our divines wore in a century which is past ; others like ducks; others flat as a frying-pan. Their handles, which superseded holes, were equally clumsy and inelegant." Yet the use of the handle was a distinct advance on the older pattern, and gradually other improvements appear, showing that the inventor's genius was bestowed upon the ancient "channelstane." A tribute to the "Kuting" and the "Rough Block" by Bridie is worth reproducing :
"In early years the implements were coarse,
Rude, heary boulders did the duty then,
And each one had its title, as 'The Horse';
One was the 'Cockit-hat' and one 'The Hen,' - The Kirk,' 'The Saddle,' ' President' and 'Soo,'
'The Bannock,' ' Baron,' ' Fluke,' and 'Robbie Dow.'"
(3) The inventor of the circular, polished, or modern curling stone is unknown. It is probable no one man can justly claim the honor, for there are many reasons for believing that here as in other phases of the game the trionsition was gradual and the work of many minds. However that may be, there is no doubt that the change from the old, square, irregular or angular to the modern form effected an almost complete change in the science and art of curling, and it is no small thing to feel proud of that to a Canadian player belongs the honor of producing the type now recognized as the best for Canadian ice.
The condition of the ice is of chief importance. In the open air the snow is swept off regularly when the ice is forming, so that the surface may form smoothly. In the rinks a level and smooth suface is easily obtained and kept. The ice being good, the next thing is to mark it properly, that is, to lay out the course. This is done according to definite rule and measurement, the distance from hack to tee, from hack to the middle, hog, sweeping and back lines. Generally, the measurements are approximately as follows: The Middle Line midway between the tee-hack indicating where sweeping may be begun. Hog Line, at a distance from the tee of one-sixth of the length from Hack to Tee. A stone failing to pass the Hog Line must be removed off the ice. The Sweeping

Line is drawn across the Tees and the Back Line, outside and behind the Ring. All stones passing the Back Line must be removed from the ice.

Four men compose a rink, one of whom acts as skip, who besides playing in his turn, captains or controls the game for his rink.

The duty of the skip is a most difficult one, and efficiericy is acquired only by long experience. A very good curler may be a very incefficient skip. The skip must know, not only how to play the game, i.e., how to slioot stones; he must know how to direct. There is a great deal more in this than in the ability of the individual player. A player may be excellent in one kind of shot and weak in others. The skip must know the weak and strong points of his men and must know the kind of shot required in any given position of the game. Such a knowledge involves great experience and skill in manipulation, for it is not only the immediate execution of the shot and its immoliate consequences that must be calculated, but also how the situation is to be affected by the game of his opponent. A skip therefore must place his men in a certain order of play that will allow of them coming to action in their proper turn and at the same time when their individual strength is required against the play of the opposing rink. A shot may seem a very good one in being disastrous to the opposite side for the moment, but in scattering his stones, or spoiling his guard, or in laying near the tee, it may turn out that a dexterous shot from a skilful player, well directel by the opposing skip, will more than recover the disaster. The skip, therefore, requires to have the game in hand from beginning to finish, must be able to reckon with the almost exhaustless possibilitics of the play, and must be the life and leading spirit of the rink. He must command the implicit confidence and allegriance of his men. They must answer to his nod (or rather shout it usually is) as the gods to that of mighty Jove.

He must possess cool nerve and yet be able to communicate an enthusiasm to his men that is not manifest in his own bearing. His qualifications are obtained
only by a love for the game, an aptitude for it and long practice. It has been remarked how few really first-class skips have been produced from hundreds of first-class players. The position of skip is therefore an enviable one and the blue ribbon of the play is to skip a victorious rink in the leading matches or bonspiels.

The object of the game has been set forth tersely by Pennent (1722 A. D.) in words which hold true to the present day, showing that while implements and methods have changed in the course of a natural development, the aims of the game have remained unchanged. Pennant says:" The object of the player is to lay his stone as near to the mark as possible, to guard that of his partner which had been well laid before, or to strike off that of his antagonists."

The curling clubs have their "mysteries," as that worl is understood in the ritual. Here are a few:-

The curler word:
"If you'd be a curler keen
Stand rimht. look eve:,
Sole well, shoot strigit, and sweep clean."
The curler grip consists in "catching by the thumb in the manner that the curling-stone is held, and in causing to be repeated the curling word: "I promise never to go on the ice without a broom, I will fit fair, sweep well, take all the brittle shots I can, and cangle (dispute) to a hair breadth."
Qustion.-Are yon a curler? Ans.Keen.

Qusstion.-What is the duty of a curler? Ans.-To behave peaceably and play to direction.

Question.-What is the greatest pleasure of a curler? Ans.-With a good stone, on hard ice, to beat his adversary.

> "Foot firm and falr, P'lay to a hair; Your stone, if well directed, Will hit your aim, And win the game; If not, be not dejected."

The folk-lore of the game is nigh exhaustless. Some anecdotes are intensely amusing; some show how curling can fasten its hold on the keen player. A shoemaker was waited upon on the morning of the amual bonspiel and dinner, and was offered the payment of


THE ANXIOUS SkIP.
frost," "Burn-the-Wind" enjoyed the ice and the stancs with her good-will. A clergyman intimated from the pulpit. a circuit of pastoral visitation for Saturday, adding: "that is, if the ice disna haud." In a close match, a minister and Lord Dundonald were the last two to play in the opposing rinks. The Earl made a "pot-lid" on the tee, well guarded, and the minister was told it was " no use to play." "Dinna hallo till ye're out of the wood," cried the opposing skip. "I'll no allow the minister to throw away his stane on sic a chance shot as your lordship took. But I'll see what he can do, and if he just playshis auld ordinar', I think the odd shot and the game will be our ain yet." A splendid
an old account. "Kecp it," said the som of St. Crispin, " till the afternoon, when I'll call for it. If I tak' it e'noo, Jean will ripe my pouches before I gang oot, and tak' it frae me." When the curlers had arrived at the water of Garnock to play, they had no shovel with which to clear the course. " $O$," cried one of the players, "here's my gray plaid. I'll roll myself in it; I'm six feet; two of you take the one end and two the other, and draw me broadside the length of the rink, up and down, and you will clear the ice at once." The novel sweeper answered the purpose. The device of the Ayrshire blacksmith is well known. He was known as "Burn-the-Wind." His wife's remonstrances failed to keep him off the ice, and his business was suffering from hisinattention to it. He tried to persuade her that iron could not be wrought in hard, frosty weather. "Just try, my man," she coaxingly said, " and no gang to the ice the day, for ye ken ye hae made unco little siller this gude while, and ye ken, John, well sune be getting into a family, and then it will tak' mair to keep us." He went into the smithy and put a piece of cast iron into the fire. When it was red hot his thrifty spouse took up the hammer to help. in hammering it out. At the first blow the bar "flew into flinders," and as "iron wadna work in
shot removed the Earl's stone from the tee, and the Earl, angry at the result, exclaimed, "What in the world has brought the body here to-day? I wish he had been in his study, for he has played the very mischief with us to day." "What's that ye're saying of me?" enquired the minister. "I was saying that it would be better for us if you had been at your books preparing for the morn." "I did-


WAITLNG FOR TIIE word.
na come here to-day, my lord, unprepared for the morn," replied the minister, "for I hope I'm not like mony o' the great folks o' this world that trust to chance and leave a' to the last day."
If the old proverb "A sound mind in a sound body" describes the ideal condition of man, then, no winter sport has as many good points to commend it as has the game of curling. The exercise is energetic without being immoderate; the interest of the game absorbs the mind so that the worries of daily life are forgotten, the goodfellowship, the spirit of brotherhood, and the morale of the play, place curling in a unique niche among the manly sports. The moral influence exerted is of a high order ; betting has never been associated with the game. An incident, which happened near


SHE'S A "BUTE."


SOOP HEL UP!! SOOP HER UP!!!
Edinburgh, shows the keen sense of honor of the ideal curler. A gentleman named MacGeorge, had to play the last stone. "Take care, MacGeorge," said an onlooker, "there's a guinea on that stone." MacGeorge withdrew at once from the play, it being against the curlers' code of honor to countenance betting in any form, and he was upheld by all the players, each one of whom would have done the same, at the expense of the game. "You who have faced the stern winter," said a clergyman, " and taken him by the hand; you who have looked uon nature in her snowy garb, hill and valley, mountain and field, tree and flower, all shrouded in a frost-work of beauty, and proclaiming so clearly their Creator God; you curlers ought to always be found among the high-spirited, the moral and the brave."

Alex. Fraser.

the end of the chase.


EHAWN BY f. H. BRIBDEN AFTER FHOTO.
TUE LATE LORD LEIGHTON, P.R.A:


THE LATE LORD LETGHTON.

BY E. WYIM GRIER, R.C.A.

SVINCE the foundation of the Royal Academy in 1769, the institution has never had a more distinguished president than the ons it has just lost; and not even Reyuolds himself held a
as, in most instances, the former presidents have been able, with conscientious diligence, to fulfil the numerous tasks imposed upon them, Leighton seemed to enjoy his weighty obligations and to

from the painting by sir frederick leighton, p.r.a.
"THE MUSIC LAESSON,"
more exalted position in the eyes of his contemporaries. Versatility is, of course, a sini qua non in the official leader of English Art, from whom a variety of accomplishments is required; but where-
enter with zest into his manifold duties. He seemed to accomplish his woik with a masterly ease that was equally remarkable in all the branches of his labor. It is inconceivable that any intellectual
exercise could have effected Lord Leighton as the writing of essays on art is said to have effected Sir Joshua. "By it," (i.e., writing a paper to the Idler) says Northcote, "he was so much disordered that it produced a vertigo in the head." Until about a year ago the late President was gracefully and charmingly active at the various functions at which he was expected to appear; and, before his illness, was the central feature of the Academy banquet, an urbane host at the soiree, a learned and interesting lecturer, as well as a regular attendant at the best concerts, operas and theatres.
The grace and tact which were exhibited by Lord Leighton in his capacity of host have been so often reverted to that little that is novel can be said on that subject; but an instance of his gift of remembering paople whom he had only casually met, which also illustrates his powers as a linguist, was related to me by an Austrian lady, who is herself a gifted painter. She states that in the (to herè uncongenial atmosphere of a London drawing-room she was introduced to Sir Frederick Leighton, who talked to her in German, on some topic which was mutually interesting to them; but they were interrupted by the approach of a third person, who monopolized the President's attention and abruptly terminated the conversation. Some weeks afterwards, on the occasion, I think, of the Academy soiree, the lady, on entering the building, met the President at his post at the top of the main stairway, when he immediately recognized her and took up the thread of their former conversation at the point where it had been broken off.

Leighton was relatively short-lived. He was born at Scarborough in 1830; his father, Mr. Fredrick Septimus Leighton, being a physician, and the son of a physician. The grandfather was, in fact, appointed medical attend:ant to the Empress of Russia, and Chief of the Medical Department of the Imperial Navy. Young Leighton's earlicst lessons were taken from Gcorge Lance, the famous painter of fruit, at Paris; the future President being, at that time, only nine years old. Then followed visits to Rome, Berlin, Dresten, and Frankfort-
on-the-Main. But it was at Florence, in 1846, that his father allowed him to follow Art as a profession; the chief reason for the decision being the generous. praise of his work accordel by the Amer:can sculptor, Hiram Powers, It was at Brussels that Leighton painted his first. important composition, at the exhibition of which he stepped immediately into fame. The subject was one which gave ample scope to that power of grouping and decorative arrangement which aftorwards became his distinguishing characteristics. The picture was given a long-title-almost in proportion to the length of the canvas-and it has been variously quoted; but a good average title would be- "Cimabue's Madonna carried in triumph through the streets of Florence." It was shown at the Royal Academy in 1855, when it was bought by the Queen. Then followed "The Fisherman and the Siren," "The Triumph of Music," "Paola and Francesca," and "Romeo and Juliet." In 1864 he was made an Associate of the Academy, and, after makinga tour in Spain, he returned to London and settled in Holland Park Road. From this time onward a rapid succession of pictures came from his prolific brush, t:ll his art reached a sort of culminating point in the "Daphnephoria," a canv:ss of huge dimensions, which was exhibited in 1876.

The picture "Wedded," of which we give a reproduction, has become widely known through the medium of a popular engraving, its serene, clanste beaty having won a place in many hearts. The hands, which play a prominent part in the composition, are wonderfully expressive. In "The Music Lesson," Leighton's powers as a painter of drapery are shown in the large-I had almost said noble-disposition of flowing line and voluminous fold; and the childish earnestness of the young musician is tenderly portrayed. "A Vestal," "Viola" and "Letty," although amongst his minor works, are charming examples of feminine beauty; while the "Orpheus and Euridice" and "Summer Moon" may be ranked with the best of his serionsly elaborate compositions.

It was a fortunate choice which madc. Leighton the decorator of the two lara.


FAOM THE PAINTING BY SIR FREDERICK LEIGHTON, P.R.A.
" WEDDED."
lunettes in the South Kensington Museum representing the Arts of Peace and of War. The first of thesa designs represents a quay or wharf in a sea port of ancient Greece, in the background of
of fruit, pottery, etc. The whole composition is treated with a view to beautiful arrangement of line, mass and colour withont regard to realistic or antiquarian accuracy. This is the key

from the painting by sir frederick leighton, p, r.a.
" ORPHEUS AND EURIDICE."
which, in a semi-circular colonnade, a group of languid beauties is seen, gossiping or braiding their hair. In the immediate foreground (if water may be so described) is a boat laden with fruit and merchandize. On the quay are vendors
note of Leighton's success. With a knowledge of the manners and customs of the people of Grecce presumably as complete as that of any other painter of his intellectual scope, he never allowed that knowledge to pedantically obtrude

ffom the painting ay sir f ebeniok lilghton, p.r.An
"viola,"
itself; his pictures have, therefore, the high æsthetic value of genuine artist:c creations in which considerations of historical accuracy have played only a minor part. We have not far to go to obtain instances of the melancholy
novelty of design are impossible. In the second panel, or lunette, representing the Art of War, the President struck a more forcibly dramatic note than in the first. The costumes would represent, probably, the medirval period of the world's his-


FROM The painting by sin frederick lelihton, p.g.h.
" LETTY."
results of pursuing the opposite course, when the artist, after laboriously accumulating the materials for a work which will satisfy the requirements of the archeological professor, finds himself so trammelled by his self-imposed conditions, that freedom of invention and
tory, when the flame of war was quickly spread, and when every man carried his life in his hands. In the busy preparations which are being made by the young warriors in this picture to meet successfully the invasion of the enemy, Leighton has seen his opportunity for a motley

picturesqueness which he never reached before nor since. In the busy movement and bustle of the scene, one almost hears the clanging of the armourer's hammer as he rivets on the coat of steel: and, on the left, in the shadow of a palace wall, a group of matrons are stitching and patching the doublets and hose of the departing lords.

In the department of portraiture, Leighton may be said to have been least successful, although some of his child pictures are delightful, and it should always be remembered that he was the painter of the famous portrait of Captain Burton, which, some fifteen years ago, was one of the pictures of the year. In this last wo:k a proper degree of realism - by which I do not mean so much likemess as the apiefrance of actualityadded greatly to the impressiveness of the presentment of a personality already forcible; and the painter successfully vindicated the charge that he was only capable of producing idealized abstractions. But with this, and one or two other less notable exceptions, Leighton's portraiture suffered from his habit of idealizing his subject, not as Watts does, ly unconsciously reading into it some deep spiritual or intellectual quality, but by deliberately modifying and changing contours and colours.

In sculpture Leighton might have won a wider fame if he had more frequently chosen that medium for the expression of his ideas; but dospite the fact that his works in this art were few, he won, with the "Athlete" and the "Shuggarl," a high position amongst the (alas! painfully few worthy representatives of the British School of Sculpture.

It is impossible to say, now, what
place the name of Leighton will occupy in the annals of English art. During his lifetime his warmest admirers were the artists themselves-the general public "admired without appreciation." His art had no national quality. The traditions which influenced him most were Greek and Italian-were in fact, distinctly um-English-it is, therefore, hardly to be wondered at that his genius was more generously recognized by artloving communities abroad than by the people of his own country, who, from time immemorial, have shown a cold indifference to the higher artistic flights of their masters of literature and art, and, in some cases, a Puritanical aversion to them. Not that Leighton was unrewarded by his own compatriots; on the contrary, the highest substantial honours that were ever reaped by an English artist were hcaped upon him; but the qualities which his fellow-craftsmen were quick to recognize were but slowly and grudgingly acknowledged by the laity; and even to-day a paltry canvas representing some commonplace, domestic scene, or glorifying a domestic virtue, will outbid in popularity an ideal work in the highest plane of art. But to Leighton is owed a great debt, inasmuch as that by holding himself at a distance from the allurements of an ephemeral popularity, and by producing art-work which was to satisfy the demands, not of a bourypois public, but of his own eclectic and exacting sense of the beantiful, he did something to stem the tide of that fatal doctrine which deifies the voice of the people; and which, if allowed to have full sway, would lower all high intellectaal cffort to the mental and spiritual level of anilliterate majorits.
E. Wyly Grier.



BY J. C. MCHENNAN, B.A., Demonstrator in Physics at Toronto Cniversity.

WHEN the announcement was recently made by Professor Roentgen, of Wurtzburg, Germany, that he had discovered a new kind of radiation, it excited so much popular interest and seemed to have such a far-

Together with Mr. C. H. C. Wright, B.A.Sc., Lecturer in the School of Practical Science, and Mr. J. Keele, B.A.Sc., of the same institution, the write repeated these experiments, and found the results exactly as described, and even


FIG. I.-APPARATUS SHOWING INDUCTION COIL AND BELL-JAR CONTAINING CROOKE'S TUBE.
reaching influence in the development of physical science, that we considered it advisable to verify in Toronto at once, as far as practicable, the results obtained by the original investigator.
more wonderful than we had anticipated.
As shown in the accompanying illustration, the apparatus used by us consisted of an induction coil of moderate size and a Crooke's tube of special form.


PM. II. - NORTH-WEST MEDAL PHOTOGRAPILED THROUGH A BLOOS OF WOOD,
lar streaks, and this appearance, as the exhaustion goes on, gives place to a bluish colored halo between the electrodes. This halo then breaks up into a series of parallel dises, and, on pushing the exhaustion still further, these disappear entirely from the negative but remain in the region of the positive electrode. Here a new appearance is presented. When the air has been exhausted to this degree, the part of the tube directly opposite the negative electrode begins to glow with a beautiful fluorescence, which indicates that some peculiar invisible discharge, causing this effect, is emanating from the negative electrode. It is the cathode rays, so called, which are said to form this discharge, and the tube in this condition constitutes a Crooke's tube.

These cathode rays have been very fully investigated by Lenard, Hertz, Thomson. and others. It is found that, like ordinary light rays, they travel in straight lines, are capable of producing intense heat, and, unless especial care is taken, there is great danger of melting the tube if the discharge is continued

Crooke's Tubes are mate of glass, and were o:iginally designed to exhibit propertics of the electric discharge when passed through air at different pressures. Tha electric current is led into and from them by means of platinum clectrodes sealed into tlı3 glass and carrying dises or caps of aluminium of different shapes to give variation to the form of the discharge.

When an electric spark is passel through a tube from which the air is being gradually exhausted, it presents a variety of appearances, each being characteristic of the vacuum obtained. At first it consists of a single line of light. It then breaks up into a number of irregu-


FIG. III.-THE RELATIVE ABSORBTION OF THE CATIODE RAYS BY THE FOLLOWING SUBSTANCES: -

[^1]
flg. IV.-Opera glatsen photographel) tirgugil case.
without interruption even for a few minutes.
If a magnet is brought up to the tube when these rays are passing, they can be readily deflected from their direct path, and, in fact, a finger presented to the tube is sufficient to deflect them towards the point of contact.

In his early experiments, Professor Rocntgen found that on surrounding a Crooke's tube whilein action with a close-fitting black paper cover, it was possible to see in a completely darkened room a brilliant fluorescence unon paper covered with barium pla-tino-cyanide held near the tube. This appearance he found to be still visible, though faint at a distanceof two metres. From this experiment he concluded that the Crooke's tube was the origin of the

pig. V.-KEYs and medal pliotographed Througil case.
action causing the fluorescence, and that this action, whatever it was, passed through paper which was impervious to ordinary light. Extending his experiments by placing other substances between the Crooke's tube and the fluorescent screen, he found that all bodies allowed this new kind of radiation to pass through thom in a greater or a lcss degree. Wood, paper and water were very t:ansparent, aluminium and ebonite fairly so, while copper, lead, gold, platinum and even glass were quite opaque unless made in very thin plates. Different thicknesses of various materials were tried, and the results obtained showed that as the thickness increased, the hindrance offered to the new rays by all bodies also increased.

The density of bodies seems to be the only property which affects their permeability, and yet their densities alone do not determine completely their transparency, as plates of aluminium, glass, quartz and Iceland spar of equal thickness were interposed between the tube and the screen, and it was quite evident that, althongh their densities are about the same, the resistances they offered to the passage of the rays were quite different. As these new rays can be passed through many substances which are opaque to sunlight, no evidence has yet been obtained which would show that they can be refracted. On passing thein through prisms, or lenses, of water, carbon bi-sulphide, ebonite, aluminium or wood there is no indication, or, if any, but slight, of refraction at these surfaces.

Since many metals and glass of ordinary thickness are found to be impermeable to these rays, it is but natural to expect that these substances would reflect them, but all experiments so far seem to show that the ordinary law of reflection does not hold for these new rays, and that if they can be reflected at all it is only in a very general and irregular manner.

Although this unknown radiation was at first detected and studied by means of a flnorescent screen, it was soon found that ordinary photographic dry plates were sensitive to it and it is owing to the developments in this direction that such intense interest has been aroused.

The reproductions illustrating this article are from photographs taken in the course of our own investigations and they will indicate some of the possibilities of the new discovery. Fig. 2 was obtained by placing on the cardboard box containing the seusitized plate, a silver medal over which was placed a block of wood one inch thick. The screws also shown in the picture, were driven into the wood and from the appearance of the cut it is quite evident that while the wood offered but little resistance to the passage of the rays, the metals were quite opaque. Fig. 3 shows the relative absorption of these rays by a number of different substances, while those like leather, sugar, amber and charcoal are fairly trans-
parent, others such as, iron, quartz, agate, silver nitrate, etc., almost completely shut off the rays. From this and many similar experiments, it would appear that organic substances may in a general way be termed transparent and inorganic substance, with the exception of carbon in the form of graphite and diamond, opaque. Fig. 4 represents a pair of opera glasses taken in their case, the metal parts were of aluminium and it can be seen that, while the rays passed through the tubes at all points they did so to a much greater extent where there was only one thickness of the metal. The object lenses are clearly defincd shewing that glass is quits opaque, and the outlines of the case are indicated but faintly. Fig. 5 shows a medal and two keys enclosed in a thick wooden, leather covered case. The effect of paper on the newly discovered radiation is exhibited in the title to this article; the letters composing it were cut in a thin plate of brass and this plate was placed between the middle pages of a book about one inch thick with heavy board covers. The ordinary letter press apparently did not effect the progress of the rays.
The action upon the sensitized film of the diy plate seems to be the same as that due to the light of the sun. The developers used were metol, hydroquinone, pyrogalic acid and oxalate of potash and iron. Pyro' developer seemed to give the best results. The images came up rather more slowly than with ordinary light and the density as seen before fixing the plate was somewhat misleading as the chemical action seems to be confined to the surface of the film only. The color of the deposit upon the plate by the various developers is the same as that given by sunlight. Various types oi dry plates were tested, but though we were unable to detect any difference in the action upon them, it may be possible when more properties of the new radiation are known to produce a more sensitive film than those now in use.

During our early experiments we found that the time required to obtain good impressions on a plate was so long that the utility of the new discovery seemed to be very limited, eveu if not doubtful.

Knowing that glass was practically opaque, and having observed that it apparently reflected the rays even though irregularly, we surrounded the Crooke's tube with plates of glass, and at once found that the time for a proper exposure was greatly reduced. On covering the tube with a glass bell jar the same result was again obtained, but in a more marked degree. We were thus enabled by this artifice to produce good shadow pictures with only a few seconds exposure.
The importance of the new discovery in its application to surgery, appears to be somewhat exaggerated. In detecting foreign bodies imbedded in the human tissue, much depends on the character of these bodies and upon the particular location relating to the bones. In this connection it may be interesting to state that from a photograph of a patient's foot taken by us we located the point of a needle in it so accurately, that the surgeon stated he was able by a single incision to remove it, as the needle in this case was situated between two of the bones, the conditions for obtaining a good shadow were rather favorable.

There have been many conjectures regarding the nature of this new radiation, but up to the presentits true character remains quite uncertain. As already
indicated it does not pass through glass, and from this it has been concluded that although the cathode rays produce it, it is a form of radiation quite distinct from these rays. This conclusion is further confirmed by the fact that while cathode rays can be deflected from their direct course by a magnet, the latter has no effect on the radiation outside of the tube. It is generally conceded now that when the cathode rays strike upon the glass of the Crooke's tube vibrations are set up in it which, on being communicated to the space outside, produce what we may now call the Roentgen rays; whether these rays are merely ultraultra violet rays, or whether they are due to the longitudinal vibrations which are supposed to accompany the ordinary light vibrations in the ether, is a problem which has yet to be solved.
I cannot close this article without referring to the assistance given us by President Loudon of the University of Toronto, and Professor Galbraith, Principal of the School of Practical Science; mrch of the success which accompanied our experiments was due to the many valuable suggestions offered by them, and to their kindly placing at our disposal every facility which their laboratories could afford.
J. C. McLennan.

## ARMENTA.

0SAXON lands! in silence weak, Will ye stand tamely by, And hear the Christian woman's shriek, The Christian children's cry?

The Turk must go-in crime and shame
A savage, like his sires;
In blood and flame the Moslem came,
In blood and flame expires.
O England and Columbia wake!
Uplift the chastening rod;
The flaming sword of Justice take, Or dread the frown of God!


THE GOOD FOR NOTHING.

KY FRANK J. (LARKE.

FROM the shores of Lake Winnipeg to the Rocky Mountains, from the Côteau of the Missouri to the North Saskatchewan, in every camp and cabin, the name of Louis Lachance was fraught with pleasant memories to the many. The exceptions were those few who had not at some time danced a long winter's night a way, in lively jigs or merry reels-of-four, to the inspiring melody of his fiddle, who had not listened spellbound as he sang, in half recitative, some old time legend of La-belle France, or laughed, till they cried, at his droll stories, reeled off over the camp, fire, on the march, or in some sung winter post.
Louis was "un vaturien," a good for nothing, as even those who loved him had to acknowledge. He was a wanderer of the wanderers; here to-day away to-morrow, ever on the move; tripping, trading, driving dogs, fishing, hunting, freighting, trapping; a handy man in camp, in the woods, in boat or canoe, or on the plains at home-everywhere. A fearless rider, a skilful dog driver, a trusty guide, an expert gambler, an inimitable raconteur, a rare good fiddler, a tippler on occasion, and withal a jovial poor soul whose abundant good qualities outnumbered the bad in his oddly equipped personality. The men pretended to despise him when removed from the influence of his irresistible good humor, the women scolded and petted him by turns, the girls admired him in secret, and the children worshipped him. The hero of many an unenviable exploit
-of duties neglected, or promises forgotten, but never guilty of the meanness of theft or criminal untruth-there came a day when Louis found himself in sad disgrace.

He had joined the autumn brigade of buffalo hunters that started westward from the Red River every midsummer and-just as their hope of securing a winter's supply of meat and a rich booty of robes was on the point of fruitionhad committed an act which, in its very thoughtlesness, transcended all his past sins and called for condign punishment.
The laws of the Half-Breed hunters of the plains were contained in an unwritten code, whose "shalt nots" were fow and easy" of comprehension, but their observance was rigorously enforced, and punishment for their infraction was immediate and severe. The penalty varied with the degree of guilt, and ranged from the loss of the offender's saddle, bridle, or coat to flogging and, in extreme cases, banishment from the brigade. Louis' crime fell within the last category.

One evening the scouts reported a great heard of buffalo three hours ahead of the advancing brigade. Camp was made at once, sentries posted, and strict silence enjoined upon all. Then, after long hours of nervous alertness, the hunters sped swiftly and silently away, before dawn, to the mighty deed of slaughter, which was to mark the birth of the new day. The riders spread out in a long line to right and left as they
advanced, and at length crested the summit of a range of low lying hills that bounded one side of the valley in which the unsuspecting prey were grazing peacefully. From the height they overlooked a broad depression whose further limit of encircling hills was already made glorious by the opalescent tints of the rising sun; beneath them floated a cloud of quivering, undulating, snowy mist that hid the valley's bottom and shut from their view the thousands of wild cattle, whose presence was nevertheless made certain by the muffled snorts and low bellowing that reached their ears through the evanescent curtain.
A sign from Pierre Delorme, the captain, brought the line to a halt; the hunters made hasty preparations for the grand charge-loosening their powderhorns, filling their mouths with bullets, and adjusting cinches and saddles-all eyes were fixed on Pierre whose signal,
"Ho!" should set them charging madly on the herd. At the supreme moment an eagle came soaring over the valley, Louis' gun rang out, and the bird tumbled, a dishevelled bulk, through the startled air. In an instant the distant hilltops were black with fleeing buffaloes. Up from the mist they rose like sea monsters from the waves, and were off over the divide, the earth vibrating beneath the shock of the myriad hoofs. The hunters charged, but too late; all that was left for their bullets and knives were the poor outcasts and strays-the sick, disabled or weaklings-distanced or injured in the blind, mad rush for life.

Conscience stricken and heavy-hearted Louis picked up the dead eagle and returned to camp. He made full confession of his fault, but expressed no hope of pardon and offered no excuse. The women and old men heaped reproaches upon him; exhausting a vocabulary, rich in that department, in variegated abuse of himself and his ancestry. The unfortunate bird. the cause of it all, was flung on the fire-a burnt offering to their outraged feelings-and Louis might have shared its fate if some of the fiercest could have had their will of him.
"Oh! the accursed good for nothing!"
yelled old Baptiste Charette, the oldest man in the camp. "Figure to yourself, we others, with our women and our children, rendered destitute by this pig of a Louis, who, to feed his vanity, makes to run the whole herd that we have had so much pain to arrive at! Aw, it's a little too much! It's infamous! Infamous!"
"My poor boy," said Pêre Lachaise, "how did it come that thou couldst make a stupidity like that?"
"I know not, my father, perhaps it was the devil who tempted me." Then, after a pause, "Marie Ducharme asked me to get her some eagle's feathers and, what would you, 'twas the first eagle that I met."
"Aha! It was that little dirt of a Marie, with her beads, and her quills, and her feathers, and all her shop-full of nonsense; 'twas she who had turned the boy's head and marle him a good-fornothing, fiddling rascal like herselfAha, the little cat!"

The storm of feminine wrath was diverted to poor Marie, who sobbed bitterly as it broke on her in shrieking fury, for it was her fortune to be pretty, and her sisters held her in esteem or hate according to the degree in which her good looks equalled or surpassed their own; and the majority of them were hopelessly plain. Louis made a brave attempt to defend his sweetheart and his defiant attitude and voice raised in anger told heavily against him with the exasperated hunters, returning from their profitless chase, for they mistook his demeanor for one of truculent selfvindication.

A court was hastily organized, The culprit waived examination and offered no defence.
"I do not wish to defend myself," he said resignedly, "it is but another of my fool tricks, which I regret very much. Do to me as you will. I merit and I desire to be punished."

The sentence-twenty-five lashes and banishment from the brigade-was carried out forthwith, amid the tears and wailings of the women and children, whose appeals for mercy were all in vain. Louis never flinched beneath the lash, but when the little ones flocked
about him with farewell kisses, he broke down and wept like one of themselves.
"Adieu, my dear little friends, adieu! Pray to the good God for me. And you others, I only ask that you forget my fault. Your blessing, my father." He knelt a moment before the priest, then vaulted into his saddle and rode rapidly away.

The outcast shaped his course northwestward, as the crow flies, intending to make the settlement at Edmonton, on the North Saskatchewan. His road lay all before him, for the great plains were as familiar to him as the streets of a city are to its inhabitants. His back throbbed and smarted from the lashes he had received, but the greater smart was within, Every fibre of his moral being tinged with the disgrace that had been put upon him, and he resolved to bury himself forever in some far-off corner of the north country, where, perchance, the story of his shame might not penetrate.

On the third day of his solitary ride he sighted the Wascana Creek, and noticed three Indian lodges standing on its bank. A couple of starved dogs howled dismally as he drew near, but no smoke or other sign of life was apparent. He hailed in Cree; silence, save for the mournful whining of the dogs, that now slunk whimpering about his horse's feet. He advanced cautiously, puzzled at the uncanny appearance of things, and became conscious of an offensive odor that grew more palpable at every step. Alarmed, and intensely excited, he leaped to the ground and strode swiftly to the door of the nearest tepee. Horror! Within lay five swoollen corpses,-a man, a woman, and three children-small-pox!
He turned to fly from the plaguestricken place, but a feeble moan, so faint as to be almost inaudible, arrested him. He listened intently.
"Water."
Oh, the pitiful pleading conveyed in that one simple word-who could resist it? In an instant Louis had forgotten his terror, his danger, his disgust, everything except that a fellow creature was in dire distress. In less time than it takes to record the good deed, he was
tenderly supporting the poor fever stricken form, while holding a precious, life-giving draught to the swollen lips.

The survivor of the camp was a young Cree woman. She had nursed the others while her strength lasted and then, overcome by the pestilence, had lain down to die. When Louis found her the disease had run its course, and, thanks to the timely cup of cold water and his after good offices, her life was saved. He made a little shelter of willow branches near the water's edge to which he removed his patient, making her a comfortable bed of grass and leaves over which he spread his own blankets. Then he set about disposing of the dead. He burned the tepees and their contents, and managed, with infinite toil-an axe being the only tool available-to scoop out a trench in which he deposited the poor semblances of humanity-eleven in number. His self-imposed task was loathsome in the extreme and when it was completed he felt sick and exhausted.

He learned from the young woman who was rapidly regaining strength, that she and her companions had formed one of a number of small parties into which the main camp of the Crees had broken up when the disease first attacked them, hoping in that way to avoid contagion. It was believed to have come to them through the Bloods and Sarcees, from the Wood Mountain country where it was said to be raging. He heard her story with great concern. He knew that the hunters were following the buffalo to the south-west, which would lead them directly to the very source of the disease. If, happily, they had thus far escaped falling in with any of the wretched fugitives, who were fleeing in all directions from the dread pestilence, there might even yet be time to save the brigade by turning them back to the settlement. He was sick. His bones were racked with pain, his head spiltting, his eyes burning, his throat parched, and his step heavy and uncertain, but, no matter, he would make the attempt. The woman dissuaded him.
"Stay, my brother. It is not in thee to do what thou wouldst. The bad
sickness is upon thee, even now, and before thou hast ridden far, the blindness will come, and who then will lead thee to thy people? Stay, I will care for thee when thy strength leaves thee, and when it returns, we will go together and warn the hunters."

He would listen to neither argument nor appeal; his resolve was taken and he would carry it out or die. So he mounted his horse and set his face southward. His thought was to head off the brigade, on the trail which he felt sure they were following, and post up a warning that they would be sure to find. If he could only succeed, what would the rest matter. He had lived too long. The day of his disgrace should have been his last, but if he accomplished his present purpose, and saved his dear little child friends and their good mothers, and Marie-his Marie-his life had been well expended. Weak and pest-stricken as he was, he urged his horse forward, taking no heed of time, unless to curse the lagging moments when he was forced to stay his race with death to rest and feed his trusty broncho. He dared not sleep. When not in the saddle he forced his trembling limbs to bear him to and fro, to and fro -a weary picket repelling the advance of ambush death. At times fearful shapes appeared in his pathway, surrounded, pursued him; fiendish voices whispered threats of nameless horror, shrieked maledictions, or mocked him with hellish laughter, but still he rode southward, ever southward, numbed and unconscious of physical pain, possessed and sustained by one fierce, eager longing that usurped all other sensations. How long and how far he rode he knew
not. The horse, flogged and forced to to the limit of endurance, faltered in his stride and gave signs of collapse, as one morning at sumrise he toiled wearily to the summit of a little hill that overloked the Wood Mountain trail. The poor brute stopped on the hilltop and uttered a loud neigh that roused his master from the stupor into which he had fallen. An answering neigh came up from the valley, and raising himself painfully upright Louis saw, through a blood red mist, two mounted men approaching rapidly-the advance guard of the brigade.
"Ho, ho!" they hailed as they came nearer. "But, holy name, it's Louis! Ho, ho, boy, what are you doing there!"
"Stop," he shrieked, "stop for your lives! The pest-the small-pox-is everywhere on the plains! To the camp! Back! To the settlement! Tell Mar-." His voice died away in a groan, and he fell from his saddle, inert and lifeless. The horse, freed from his weight, made an attempt to join his fellows, but the hunters shot him dead and rode away toward camp, as if pursued by demons, shouting the warning as they went"The small-pox! The small-pox!"
"God be praised. The fever has left him ; he will live."
The words spoken in a low familiar voice, greeted Louis' ears, roused from unconsciousness, as it seemed to him, by the pressure of a soft, cool hand on his forehead. He opened his eyes, wearily, and they rested upon the kindly face of Pêre Lachaise, smiling down into them, and beside it another face, beaming with love and new born hope-Marie's.

Frank J. Clarke.



THE ruling-passion, of which I had something to say last month, is the special insignia of the Crank, and I have often thought that there is, perhaps, room in this book-filled world for a volume on Cranks and their Crotchets. Mrs. Limn Linton scarcely does justice to the subject, which she treats in a recent issue of the North American Review. It is really worthy of a book, and the book ought to beillustrated, of course. (I am open to a commission to do the illustrating-terms on application.) In my peregrinations up and down the Dominion as a missionary in the cause of public entertainment, I have met a sufficient assortment of cranks to furnish material for a volume half as big as the family Bible, if printed in large, plain type. Unfortunately, I had not the business sense to make notes of them in a methotical way, or I might now be in a position to simply touch up the memoranda, confer with a publisher, and sit down to the enjoyment of endless royalties. These "happy thoughts" seem to have a habit of coming too late. It would now require a wrestling effort of memory to recall many of the crank specimens, and the figures would not be apt to stand out strongly. I am even afraid a slight element of pure fiction might crecp into the work. No; the book ought to be done by somebody else who has kept notes, or who can get access to the notes kept by other students of human nature.

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If this hint is acted upon I would advise the prospective author in search of new studies, to pay a few visits

to the meetings of the Liberal Club of New York, which are held at the German Masonic Hall, on East 10̆th Street, every Friday evening. This is a unique assembly, and also a veritable stamping ground for the genus Crank. The meeting has been kept up without intermission for a quarter of a century, and boasts the only "absolutely free platform" in America. Here every Friday evening there is an address by some regularly selected speaker, or a debate by two, supplemented by a free discussion in five-minute speeches by all who wish to take the platform. The place is always well filled with a strangely-assorted assemblage, ranging from Bowery denizens to university professors. Nearly every one of the habitual participants is the willing victim of some fad, more or less reasonable. One old chap, for example, has given himself, without reserve, to the great moral question of Wife-beating, and never fails to touch upon it if he gets within reachable distance at all. In replying to a Socialistic
 speaker on the occasion of a visit I made to the meeting lately, he ventured to say a good word for Vanderbilt, but he was promptly greeted with howls and roars of dissent from a group of anarchists in the
rear of the hall. Instantly he was on fire. "Ha!" he screamed, pointing the finger of scorn and shaking his long, gray locks at the crowd defiantly-" Ha ! you wretched wife-beaters! I know you; I can tell you're wife-beaters by your very looks!" This singularly intellect-ual-looking old gentleman, who, by the way, is an artist of some note, is quite convinced that Wife-beating is at the bottom of the great social problem, and that the Silver Question is the merest side-issue.


I find in my own mind a strong disposition to rank Nansen, and the rest of the searchers for the North Pole amongst the cranks. I may, perhaps, venture to do so even with the approval of the cuthasiasts who supply the money for the fitting out of the generally ill-starred expeditions, for crankism does not necessarily argue the absence of ability or good sense in a man; it is the result of the abnormal development of some faculty, which is in itself admirable. I doubt if any man short of absolute crankhood on the subject of polar exploration, could ever be induced to undertake such a journey, so that if any useful purpose is to be secured liy the discovery of the Pole, the world will then have cause to give thanks for the existence of this peculiar mental malady. In an age of science like the pres-
 ent-and in a city which proudlyboasts professors of physics, who have now outRöcntgened Röncntgen in the matter of cathode $X$ rays and which is next year to
be honored as the meeting place of the Association for the Advancement of Science,-I hesitate to denounce this whole North Pole business as costly, cruel and consummate nonsense. I will content myself by saying that, up to the present, I have failed to discover what good the discovery of the flag staff in question would do anybody. Nansen, I understand, has actually accomplished the object of his mission; has succeeded in the quest which has heretofore cost the lives of many brave men, and the loss of much treasure. Nansen, accordingly, has the floor, and I respectfully await his explanation on this point. Let him state clearly in what way a voyage to the Pole cuts any ice pactically.


I trust nobody will object to this expression as slangy. Theoretically, I object to slang as strongly as any-hody-even more strongly, if possible, than Sam Jon s , the Southern preacher. Sam, however, himself uses it habitually. I trust I do not. I use very little of it, in fact, and that little for a distinct purpose. In strict confidence, I don't mind mentioning what this purpose is-it is simply that I may impress the casual stranger that I am an up-to-date person; because you sce, I strongly object to being taken for a Jay- (I don't know clearly what a Jay is, but I have an idea that the word is a recent addition to the English slanguage, and means something green). Most poople, I believe, share with me the harmless desire to give the impression that they know their way about town; and I don't think there is any cheaper or easier method of arriving at the result than the use--sparingly and occasionally, of course-of mild slang. Some folks members of the lower orders or of the upper ten-for here extremes meet) use nothing but slang. The most accomplished of 1 xographers would find it impossible to understand the ordinary conversation of a Bowery boy; and almost equally difficult to translate the fashionable lingo of London or New York. I don't think it's at all nice to

carry slang so far as this. By doing so you give the impression that you are a loafer, or a "smart person,"much of the same thing. But when into the stream of English undefiled which ordinarily issues from your lips, you drop an occasional slang word, you practically extort from your listener the mental exclamation "Ah! this man has travelled!" thus, unostentatiously, you manage to cover yourself with glory. See?


Herr Röentgen and his discovery of the application of the cathode rays to the photography of invisible objects fairly lorded it over all the popular topics of February. He deserves to succeed in capturing those queer X rays and mastering their properties. Great indeed are the mysteries of electricity. It would seem, to judge from the results, that the Herr Professor, having successfully carried through his experiment, touched a button in his laboratory and thereby communicated an electric shock of enthusiasm to every devotee of physical science throughout the world. They have all been working away ever since as energetically as the figures in an automatic machine, from the great Edison down to the humblest of the investigators. And this sudden impulse of industry has, not unnaturally, resulted in a remarkable crop of what we may call side-discoveries, many of them vastly
important. We are prepared for almost anything in the way of a new revelation and are just now in an attitude of strained expectancy, waiting to be astonished.

It is a great age we are living in, as some fellow has already remarked. The boy who is born mens sana in corpore sano just at the present moment, has good yeason to shake hands with himself. He is going to see things! If he lives for the alloted three score and ten, he will die far fuller of years than Methuselah was at the time of his decease, if, indeed, the twentieth century scientist does not discover some means of obviating death altogether. Perhaps we may with some assurance draw the line of scientific accomplishment here, for I see that the New York savant who thought he had rescusitated a dead mouse with the X rays, has tried it over again and regretfully announces a failure. His hypothe-
 sis seem to have been a fault in one minor point -the first monse was not really dead. But short of superceding " the old, old fashion, death," we dare not set limits to the possibilities of any human achievement. The globe may still be working on the old time-table, but the scientific world is revolving rapidly enough to make us dizzy.

It is not alone in the university laboratories that we may see the new order of things being evolved; there is a great and visible re-adjustment going on out doors as well. Take the journalistic realm, for example. The happy public of this fortunate day gets a generous helping of the best of reading matter, admirably illustrated, and beautifully printed on superior paper in magazine form, for a price which, but a few
years ago one had to pay for a daily or weekly newspaper. The ten-cent magazines have caused a smash in prices all along the line. The greatest daily in New York has recently come down to the onecent basis, and for that triffing sum is supplying more cable news and finer illustrations than ever before. It is doing this because other one-centers are chasing it savagely. The leading journals of Chicago are also at the one-centrate, and it seems clearly fore-ordained that no higher price can be charged for the journal of the future, if, in-
 deed, the distracted publisher is not obliged to add more pages and give his paper away for nothing. His consolation will be an increase of influence with the masses, and he will have to put on the best face he can, and say with Pulitzer of the $N . Y$. World-" We prefer Power to Profits !"
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As for the coming citizen, what possible excuse will there be for him if he is below the standard of a university graduate in general erudition? None at all! Even as things are now there can be no apology for ignorance, at least on this continent. And as a matter of fact there is not much of that undesirable commodity amongst the English speaking sections of the population. If there are those amongst the masses who have failed in some mysterious manner to learn the art of reading, they can hardly escape acquiring some intelligence through the medium of their more accomplished fellows who take the papers. But altogether more typical of the present state of public culture was it
to walk up Yonge Street behind a couple of little urchins (as a friend of mine did the other day) and overhear them ably and vigorously discussing the ins and outs of the Remerial Bill.


Apropos of Sam Jones, whosereverend name has been mentioned,there is a story which goes to show how that sometimes the point of his wit is turned against himself. On a certain occasion he occupied a pulpit in a strange town, and in his sermon inveighed with his usual vehemence against human " meanness." This sad trait of mankind he illustrated in many different ways. At length, coming to refer to the parsimony with which many Christian congregations treat their preachers, to give the local application to this point, he suddenly turned to the pastor of the church, who sat uprin the platform near him, and asked: "Brother, bout how much do these folks pay you per year?" "Four hundred dollars," was the reply. "And 'bout how many of 'em are there in the cong'gation?" "Five or six hundred." "Well, well," exclaimed Sam, turning reproachfully toward his audience. "Six hundred of 'em, and they give less'n a dollar a year each! Do you know what I would do if I had as mean a crowd as that to deal with?"-and he turned once more to the pastor of the flock. "I'd go out and get some little stray yaller dog and sic him onto 'em!" "That's just what I have done," replied the preacher, motioning as if to clap his hands-"Sic 'em, Sam, sic 'em!"


M. Hugues Le Roux says that French novelists owe apology and reparation to their countrywomen. They have pictured not French women but the Parisienne, who is not French at all, butrather a distortion of some one of the bevy of foreign professional beanties who have domesticated themselves at Paris. Foreigners believe that every fireside has its gallant. If you venture to protest they declare: "We invent nothing. We repeat but a small part of what your French novelists say daily of their wives and their sisters." My face burns every time I hcar the name, "Parisienne," applied to the Cosmopolitan woman who has installed herself at Paris and is surrounded by a crowd of snobs and donothings. Read in the fashionable papers the list of those elegant persons that now form "all Paris." They are emigrants from the two Americas; ladies on a vacation, wives and daughters of cosmopolitan financiers. This bevy of beautics have not a drop of French blood in their veins. They live outside of our domestic and religious traditions. They share not one of our patriotic feelings or of our social prejudices. They imagine they aro Parisiennes because they go to the Opera, the Francais, the Sorbonne, and the great dressmakers. They even make us believe it, for with their woman's gift of assimilation, they give us the illusion of French culture. They pay court to the writers; persuade them that they alone are intercsting. There are twenty women, as well known as actresses, who for ten years have posed for the romance-writers. What has the real Parisienne of Paris to do with all these lawn-temis parties-she whom Alphonse Dauclet has seen and loved,
this Parisienne who performs the miracle of conducting her house perfectly without tirning into a housekeeper, of educating her children without becoming a pedant, of remaining attractive without falling into frivolity? But foreigners say, "If you have such a treasure as that, why hide her from the rest of the world? It would be a new fich for the writers to work!" In fact, after having defamed those that we love, why not say something grood about them? French novelists owe reparation to the Frenchwoman.
"The Ladies' Paradise," by M. Zola, is one of the pleasantest of the great specialist's novels. The heroine really is a good and charming woman, gracious, noble and simple. "The Ladies' Paradise" is a huge magasin like the Louvre or the Bon Marché, or the London Whiteley's. The work of the great shop is laid before one with the minuteness and clearness of an ordnance map. M. Mouret, the chief proprietor, is a subtle piece of characterization. The book is both innocent and wholesome, and in connection with M. Zola's ambition to be classed with the "Forty Immortals" of the French Academy, may be regarded as a sign of the times. He has a number of friends in the Academy, but the majority of the Immortals regard him as having defiled French literature. After his last defeat he said, "I am not in the least discouraged, and shall present myself again and again. It is only a matter of patience. Balzac was blackballed, and yet everybody said that Balzac would have got in eventually if he had not died before the time came to present himself again. Then there was Victor Hugo, who had
to present himself four times. Perhaps I shall have to present myself twice as often, but I shall get there in the end. It is more for the novel than for myself that I am fighting. I want the novei to be recognized as the most important form of literature, next to lyric poetry, of the century. And the present constitution of the Academy does not recognize this fact. The novel is still in the eyes of the academicians what it was when novels were first written-a literary trifle that sat very low down at the table of the banquet of literature. Yes, I shall go on and on-"

In the life and work of the distinguished dramatist, Alexandre Dumas, fils, we find striking instance of the law of compensation. His strength grew out of his weakness. One among the thousands of children who cannot say, "My mother," save with faltering voice, he reached manhood's years without other name than that given him in baptism. The day came when his father was proud to accord him recognition and such reparation as the law affords, but it was not in man's power to lift the cloud which enveloped him from his birth. His childhood and youth were passed amidst the taunts and revilings of those who, not without sin, ever cast the first stone at society's victims. In after years of honor, wealth and social ease, he could not forget his birthright of sorrow. Always this child of a great author and a poor seamstress found tenderest pathos and most forceful eloquence when pleading for women and for those little children against whom the world's hand is raised before they are born. He preached the gospel of pity and redemption; he was a Christian moralist, "Christian even to excess," and will be ever best described in words which form the title of a great play-" L'ami des Femmes"the friend of women.

There is a noticeable concurrence of opinion among writers in Paris and elsewhere regarding the literary character of Dumas. Those who could not agree with him acknowledge his loftiness of purpose, strength of argument and superiority of logic. Contemporaries who knew him best, and are most com-
petent to judge, declare him a man of extraordinary genius, the greatest dramatist since Corneille, Racine and Moliere; that he was and will remain one of the most beautiful figures of our time; that for more than forty years he incessantly fought for what he thought was best, untiringly asked for what he believed-and proved-to be justice. "Dumas was a great literateur, a great moralist, a great man, in the widest and the strongest sense of the word."
"Women should grave this in their memories: that man alone is worthy of their love who has judged them worthy of his respect."-"The man who, in real life, limits his destiny to the search for a woman, and the adoration, or even the possession, of her, as literature counsels, is a child, an idler, or a sick man, and the woman who devours and annihilates him is perfectly right and renders a great service to the State. Man owes his entire self only to that which is imperishable, eternal and infinite. If, containing within himself a potential Socrates, Cæsar or Columbus, he contents himself with being Othello, Werther or Des Grieux, he is not a whole man, but only a part of a man: he descends below his level; he has lost the idea of his origin and his end ; he is no more than a literary hero, an instrument of immortality for poets and of immorality for young girls and college boys."

> Alexandre Dumas, fils.

Is a letter to his brother Keats thus describes a walk with Coleridge,-" In those two miles he broached a thousand things. Let me see if I can give you a list:-Nightingales-poetry-on poetica sensation-metaphysics-different genera and species of dreams-nightmarea dream accompanied with a sense of touch: single and double touch -a dream related-first and second consciousness -the difference explained between will and volition-so many metaphysicians from a want of smoking the second consciousness - monsters - the Kraken-mermaids-Southey believes in themSouthey's belief too diluted-a ghost story -good morning-I heard his voice as he came towards me; I heard it as he moved away-I had heard it all the
interval, if it may be called so. He was civil enough to ask me to call on him at Highgate. Good night!"


A spot particularly rich in literary associations is about to be wiped out of existence, as far as the speculative builder can be said to "wipe out" land property by building rows of shops and houses over it. It is situated in Islington, within a few yards of the house occupied by Cruden, of Concordance fame. In the near vicinity is the old building stated to be the only genuine "Bleak House," immortalized by Dickens. Another "only genuine" building in the same connection is at Broadstairs, and there are doubtless more in other parts of the country.


Here is part of the dedication prefixed to Mr. Alfred Austin's philosophic drama, "Prince Lucifer":
"To The Queen's Most Excellent Majesty:
"Madam, -On the memorable Midsummer Day, when You received the loving homage of Your faithful People, I had no lyric nor Jubilee ode to lay at Your feet; for the imagination is overwhelmed, rather than stimulated, by the retrospective contemplation of the half century of Your happy Rule. But who can forget that, in a special sense, this year is Yours?" In comment thereon, a writer in The Westminster Gazette says, "Could anything be more courtly? Not content with minding his P's and Q's, Mr. Austin proclaims his devotion in his capital Y's. It only needed a capital at Her Majesty's feet to make this a masterpiece of typographic loyalty."

Eugene Field was more than usually partial to a joke. During his journalistic career, when acting as city editor to the Kansas City Times, he found great amusement in annoying a man named Ferguson, who was one of the "make-ups" on the paper, and the leader of a local Temperance society. For over a year, Field, on coming down to the paper to go to work, would write a paragraph concerning Ferguson.

Generally it ran like thus: "Mr John Ferguson, the well known 'make up' of the Times composing-room, appeared for work yesterday evening in his usual beastly state of intoxciation." This entertaining bit, Field would send down in some bundle of copy, and the others of the composing-room would set it up and say nothing. Poor Ferguson knew that this awful "personal" was in their midst, and every night would go carefully over every galley for the purpose of locating and killing it. Every now and then Field would omit it, and then the persecuted Ferguson was worse off than ever. As long as he could not find it lt might still be there. It almost drove the poor man off the paper. Now and then it escaped his eagle eyo and was printed. On such occasions Ferguson's burdens were beyond the power of even a Christian spirit to bear.

Somebody in the Dial has been exploiting classic slang and says thereof "We moderns are not the first to find things which 'make us tired,' for Virgil, speaking doultless from a rich personal experience, complains that 'Juno makes earth and heaven tired.' His description of a city riot, in which he says 'rocks fly,' is twin brother to the reportorial railway strike, wherein coupling-pins always 'fly.' Circero might, have been a Roman from Cork, when he apeaks of a 'power of silver and gold;' and he is forever 'throwing Catiline out' (of the city). Caesar says that Ariovistus 'had taken to himself such airs that he seemed unendurable.' Our word 'business,' which is so convenient to piece out conversational poverty with more or less legitimate uses, is a prime favorite with both Cicero and Caesar. The following phrases are quite Chicagoese: 'An opportune time for finishing the business' (of destroying the enemy's fleet); 'What business had Caesar in Gaul?' 'They undertook the business ' (of arresting the Allobroges), etc. Xenophon gives us, in Greek the same phrase as Cicero in Latin, for he says, 'Tissaphernes threw out others' (of the refugees from the city). He seems like an elder brother when he declares, I made a find.' and 'They were like to wonder.'"

It has been stated that in one year a popular magazine rejected no fewer than 20,000 manuscripts. No doubt the gaiety of the world at large would be greatly augmented by the establishment of a magazine devoted entirely to the publication of manuscripts exactly as they are written by aspirants for literary fame and glory. The number of such aspirants is legion. Hundreds of them are not lacking in education and intelligence, but when they try to express themselves on paper the result is some of the most wildly ludicrous compositions of modern times, rivalling the best endeavors of our cleverest funny men.

One would-be novelist, says of her heroine, "she had a cherry mouth full of pearly teeth and dark brown eyes," and when she gets into a most thrilling and perilous position we are told that "her lips quivered, her cheeks grew pale and her breath came in short pants." An essayist in an article on "Industry" says; "Industry void of economy is absolute nihility, and vice versa." It is doubtless"an Irish writer who describes one of his characters as "a victim of heredity, many of his ancestors having taken after him in their desire for strong drink." These are a few specimens of the all-prevailing craze for writing, while they illustrate the surprising possibilities of the English language.
"Mordred and Hildebrand". A Book of Tragedies by William Wilfred Campbell, author of "The Dread Voyage," "Lake Lyrics." - The necessity of limiting this notice to a few lines only, forbids any attempt at giving an adequate conception of the charm and beauty, the power and pathos, enclosed by the covers of this volume. Entire pages might be quoted with delight to reader and reviewer. In creating the character which gives the title to the first mentioned of these tragedies, Mr. Campbell confers a distinct boon upon literature. 'To this Mordred of the Arthurian legend other versions barely accord a common humanity, shroud in mystery his relation to the King, and centre interest and action upon the laison of Launcelot and Guinevere. In the present version Mr. Campbell does not lessen the romantic in
establishing the realistic. To all who know and love the "Idylls of the King," we give the assurance that in Mr. Campbell's conception of Mordred they will welcome a most gracious supplement to the master hand.-In the second half of the volume, as the name Hildebrand indicates, we find an historical tragedy, founded on the life and character of Pope Gregory VII., his struggle for supremacy with Henry IV. of Germany, and his enforcement of the celibacy of the clergy. The cost of this last achievement stands self-confessed in the lines:
" That Hildebrand who crushed out his own heart To keep the right, will die as he has lived."
The power of his shibboleth, "The Curse of Rome," and the dominance of his will are evidenced in the spectacle which made all Europe stare when, in the depth of an unprecedently severe winter, this carpenter's son as Gregory VII. kept Henry IV. of Germany, the representative of the Caesars standing for three days before his palace doors, the royal suppliant clad only in a penitent's shirt.

In delineating the character and varying fortunes of this remarkable figure in church and state polity, Mr. Campbell exercises the dramatic ferver, poetic insight and artistic acumen which we who know his work always demand at his hands.
"The Up-To-Date Primer." A First Book of Lessons for Little Political Economists in words of one syllable, with pictures by J. W. Bengough. Designed for use in Schools, Colleges. Universities and other Seats of Learning. Funk and Wagnalls Co.
This book restores the faith of one's youth, which disappeared with sundry shillings, York and Lancaster, when one invested in "Science in Seven Hours," "The Meistersinger in a Morning,', "Volapuk while you Wait" and divers other royal roads to learning. Written in the language of love, best understood by little children, it finds fitting expression in words of one syllable. It is wisdom in homeopathic doses. The reader is pelted with pellets, fired by the flashlight of fun which always affords unerring aim.
M. M. Kilpatrick.


0NE of the most interesting and conspicuous women in England to-day is Miss Frances Power Cobbe. In the preface to her charmingly-written autography this clever, energetic woman, who has done so much in the cause of humanity, says:-" My life has been an interesting one to live..and that it has been a 'life worth living' I distinctly affirm," a statement with which, I am sure, we will all heartily concur. The mere act of living has been ever a pleasure to her, being of an optimistic temperament, and having perfect health. Miss Cobbe was born December 4 th, 1820, the youngest of a family of four brothers, whose pet plaything she was. So, as she remarks, that though she may have become what is called a "Woman"s rights" woman, it was not because she personally had had to feel woman's wrongs.
On the death of her father, which occurred in 1857 , she was left an income of $£ 200$ a year. Shortly afterwards she joined Mary Carpenter in her work at Bristol, teaching in the Ragged Schools, and helping in the Red Lodge Reformatory, where rescued girls from the age of ten to fifteen were kept for a term of five years, after which they were taken on probation into Miss Carpenter's house to be trained before going out to service. This building had been given by Lady Byron (widow of the poet), who took a deep interest in all charitable works. Miss Cobb's health at length broke down under the rigid régime practiced by Mary Carpenter, and she was obliged to leave, though continuing her work in the Schools, and in befriending friendless
girls. In her lectures, in 1861, she brought before the public the crying evils of the existing system of Workhouses, so widely portrayed in "Oliver Twist," showing how it engendered and fostered crime; how the poor children were neglected, describing their dull, heavy faces and thinly-clad forms; how the sick lay on wretched beds, nursed mostly by old pauper women; and the mental and moral deterioration noticeable in the young girls after residence.
The next thing to which this marvellously energetic woman and reformer turned her attention was to education; and in 1862 appeared a plea for "Female Education," asking for the admittance of women to the universities, and for women doctors-a plea soon answered, as girl students have grateful reasons to know.
But her chief labor for the last fifteen years has been the founding and directing of the Victoria St. Society for the Protection of Animals from Vivesection, a work in connection with which her name is most familiar. Papers on this subject appeared in the Fraser Magazine, the Quarterly Review, and others, and were later collected and published in book form. One must shudder at the horrible cruelties described as inflicted upon poor, helpless animals in the cause of science yearly; the slow torture, the lingering death with mangled limbs, dissected nerves and dug-out brains, operations recorded with brutal conciseness by Prof. Goltz in the Physiological Reports. Miss Cobbe labored earnestly and untiringly to bring such
cruelties to an end, for to her " to inflict on a sensitive creature a torture worse than death is a great and grievous sin." A Bill for Regulating the Practice of Vivesection was presented by her through Lord Henniker in May 4th, 1875, and a Royal Commission was issued in June, who reported in favor of legislative interference. In December of that year took place the first mecting of the Victoria St. Society, which numbered among its members, Lord Shaftesbury, Sir Evelyn Wood, Dr. Vaughan, the Countess of Portsmouth and Lucien Bonaparte. In March of 1876, they sent a deputation to urge the government to bring in a bill with reference to vivesection ; but alas, the bill was so materially altered through the instrumentality of the medical profession, that when passed it was for the protection of the vivesector, not the vivesected-a terrible blow to Miss Cobbe, when it seemed that her appeal, " In the name of the God of mercy, and as we hope for His mercy on our sinful souls, let this torture of His innocent creatures cease! " was lost. But her work had not been in vain; it had led to the establishment of no less than fiftyfour societies for the protection of animals in Europe and America.

In 1880-81, Miss Cobbe delivered lectures on "Duties of Women," which have been translated into Danish, Italian and Russian. Many helpful suggestions and truths may be found in them, as for instance, "Take the sorrows, the wants, the dangers (above all the dangers), of our sisters closely to heart, and save and shield them as best you can." "I think for a woman to fail to make and keep a happy home is to be a failure." "What right have we," she asks, "to demand participation in the affairs of the nation, if we cannot manage properly our own domestic affairs." "My own literary friends I have generally found to be good housekeepers." A moderate, temperate, and wise woman was Frances Power Cobbe. "Let a woman," she sums up, "be ever chaste, temperate, truthful, brave and free." Though putting through so great an amount of literary and practical work, she managed to find plenty of time for the enjoyments of society, which her cheery, healthy disposition thorough-
ly enjoyed, as her clever, beaming face clearly showed. Among the eminent men she constantly met were Charles Kingsley, John Bright, Matthew Arnold, and John Stuart Mill ; and Lord Tennyson visited her to express his great sympathy in her endeavors in the cause of suffering animals. She was also a regular attendant at Dr. Martineau's chapel. In 1884, finding the strain of London life too great, she resigned her position in the Victoria St. Home and the "Zoopholist," and letting her house to her friend Fanmy Kemble, retired with Miss Lloyd to Hengwet in Wales. Her friends and sympathisers raised a sufficient sum to provide her with an annuity of $£ 100$ a year, "in recognition of her noble and untiring labors in the cause of humanity."

And there, in the grand Welsh scenery, where "the deep, true purple heather, and the emerald-green fern" robe the mountains iu summer; where down every chain and ridge rush brooks always bright and clear, in many places leaping into lovely waterfalls, and on the north and on the south of the valley, and on the sides of the mountains are woods, endless woods," peacefully passing the closing years of a long and useful life, we will leave her, but
"Think not the good,
The gentle deeds of mercy thou hast done Shall die forgotten: the poor, the pris'ner, The fatherless, the friendless and the widow, Who daily own the bounty of thy hand, Shall cry to heaven, and pull a blessing on thee."

I understand that there is at the present moment a movement on foot in England, to erect a memorial to the poetess, Elizabeth Barrett Browning, who lies buried on the purpled, violet slopes of Florence, under the noble monument, designed by the late Lord Leighton. Though late in the day, it is to be hoped that the scheme may meet with an early and adequate fruition, so that the memory of her, the greatest of English poetesses, may no longer rest unrecognised. Shortly after her death, were written these extracts relative to her position as a poet, by the clever, impartial and stern critic "Blackwood": "Her place among the immortals is secure. She is emphatically a singer . . .
the music so resonant in her verse was first the music in her mind . . . She sang as the birds sing, pouring forth 'strains of unpremeditated art'... a quality extremely rare, this union of the emotional and intellectual." Of her poetry is given this high tribute; it stirs "the noble emotions," and impresses " her readers with high thoughts. . . . It is a soul speaking, not a talent." How then has her genius remained so long without any tangible mark of appreciation and gratitude? She so "true a woman and wife," so deeply loved and mourned by her poet husband, to whom those beautiful words she sang must have come at times. bringing with them a measure of comfort:
"Not alone in your despairOut of Heaven shall o'er you lean
'Sweetest eyes ever were seen.'"

Bear this in mind if you are about to take a trip to Constantinople, that it is not considered etiquette for a Mohommedan to mention the women of his harem, neither must you speak of them to him, even if you know that he has but lately lost his favorite wife. To do so would be a great breach of les convenances. At the same time, the women are not so jealously secluded, as is commonly supposed, at least, not the daughters. For, during the Baiream Festival in Herzegovina, great flirtations are carried on between the young people, with a half-closed door as the only barrier to their love-making. Some so improve the occasion, that this annual privilege at times results in an elopement. Proving that even with Grientals, "Love laughs at locksmiths."

In this, the first spring month of the year, comes that day quaintly styled " Mothering Sunday". That day when "sweet winds summon exiles home from wintry wanderings," "and down the olden way they haste, whereof their feet are fain," and, according to the old proverb, " he who goes a-mothering'finds violets in the lane." How this title came to be given to the fourth Sunday in Lent, was in this wise: In all the Midland counties of England, it was,
and may still be, the custom for all servant girls and apprentices on this day to visit their old homes; taking with them some little present for their parents, and those lucky enough to find them, also a bunch of violets the first of the season, with which to adorn the Mothering cake, usually a white cake, iced, and decorated with posies, a gift for the mother, and a special feature of the day. We can imagine with what impatience the lads and lasscs must have hurried along the pleasant lanes with blossoming hedges, and across the green meadows, where "the lark uplifts his ecstacy," and the cuckoo, herald of the spring, calls from the "greening elm," knowing that "the door stands wide, the wallflower's scent floats in across the sill, and there upon the lintel-stone is mother waiting still," gazing down the garden path, and up the quiet village street, anxious to catch the first glimpse of the home comers, the wind whipping up her white apron, and ruffling the ribbons of her best cap all unheeded. At last they come in sight, trudging alone, dusty and breathlcss, they wave their hands, and then, the greetings that follow, the untying of bundles, the interchange of harmless gossip, the admonitions, the merry meal, and lastly the recital in the fire-light, of their life and doings during the past year to the eager listening parents and the happy Mothering Sunday comes to an end. How many must have to look back longingly on that day, when in after years the old home had grown empty, and life had proved not all that they had hoped, and dull brick houses rose suffocatingly up before them, in place of green scented lanes and singing birds, and longed yearningly for the time when
" The days of exile overpast, the home-day shall begin,
And hearts may go a-mothering for evermore, Amen."
This mid-Lent custom is of quite ancient origin, being in vogue prior to the Reformation. Then, upon that day, parents and children were expected to come together to the Mother Church, and there deposit a thank-offering upon the high altar. And Herrick, the Cavalier poet, makes mention of it in its
later form in his Charms and Ceremonies, as customary in Gloucester, for to Dianeme he says,
> " I'll to thee a imnell bring, 'Gainst thou goest a-mothering, So that when she blesseth thee, Half that blessing thou'lt give me."

In some families to this day, the Mothering cake is made every year, decorated with the first wild flowers, and placed before the mother, who, like the bride, must cut the first slice.

We hear so much now-a-days for and against women doctors, that the old saying "there is nothing new under the son," comes very forcibly to mind when we read that in medirval times, when the Moors were masters in Spain, the lady doctor was not an uncommon sight to the citizens of Cordova. This taste must have remained dormant through all these centuries, for, as was stated, the few lady students to-day attending universities are chietly medical. And of late the young, energetic Queen of Portugal, in the hope of inciting the indolent ladies of her realm to some mental activity, has taken up the study of medicine; a science in whose progress and discoveries she is an interested and sympathetic patron. Yet the path of the medical woman, for some reason or other, is not a smooth one. Austria and Germany frown on her, and most surprising of all, so does England. There, the women may certainly pass their examinations, but if they wish for the necessary deploma, they must go to Ireland or Scotland to obtain it. Such is the law of the rigid College of Physicans and Surgeons. Though they must surely know. what an immense anount of good a lady medical missionary alone can do, and docs in the jealously guarded harems and seraglios of the East where no man may enter, In Hungary it is said, that there are thousands of villages destitute of doctors or druggists, so that a large field is open there for the women to avail themselves of the liberal privileges lately granted them. Let there be women doctors by all means, but let them confine themselves to women patients.

IT is interesting, and at the same time amusing, to note that the Austrian Government, who so strenuously frowns upon the enterprising lady medico, should lately have appointed one in the face of a large number of male competitors, as medical adviser to the Home for Deceased Army Officers' Daughters, a Governmentinstitution. Fraülien Roth, the successful candidate, took her degree in Switzerland.

Madame Jouragin, M.D., the chief medical officer for the Lycée Fénélon, the only school for girls in France, established on the same system as those for boys, was before her marriage to the well-known doctor, under whom she studied, a Mile. Chopin of Brittany. Coming to Paris in 1878, as a girl of nineteen, she was attracted to the study of medicine, and by Dr. Jouragin's advice made it her profession, winning her degree in 1859. Shortly afterwards she wrote a paper on Salicylic Acid, its uses and properties, which created some stir in the medical world at the time. She was nominated by the late Dr. Beaumitz, a firm believer in her powers and capabilities, as his assistant in the Lycee Fénèlon. And in October 1894, at the age of thirty-five, she marricd her old friend and teaches. It may be said in closing, that Madame Jouragin, besides being skilled in the arts of surgery and medicine, is reported by those who know her, to be an accomplished pianist, and a charming companion, not having lost her femininity with her knowlodge, and profession.

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In the town of Beverley, of Yorkshire, England, there exists a twuly benevolent socicty, which presents to every servant living within a certain radius of the market cross, who has for seven and a half years bean with the same mistress, a reward of ten guineas, as an incentive for faithful service. I wonder how many of the present day domestics of this country, with their boast of the number of places they have been in, would ever gain it?
M. J. Moskin.


SOMETHING was said last month about the agitation now going on in the United Kingdom for a duty on foreign wheat.
Mr. James Lowther's scheme is that foreign wheat should be taxed five or ten shillings per quarter, and colonial admitted free as now. Last year $70,000,000$ cwts. of wheat were imported, of which $12,000,000$ were from colonies, Canada sending $2,800,000$, and $58,000,000$ from foreign countries. Of the $31,240,000 \mathrm{cwts}$. of imported barley, all but 18,000 came from foreign countries; of the $19,134,000$ cwts. of flour, all but $1,270,000$. Mr. Lowther calls his proposed tax a " means of solidifying the Empire." His opponents describe it as a proposal to starve the masses in order to bolster up rents and save the great land monopoly. Lord Salisbury has declared it to be impossible, and hinted that it would probably produce civil war.

Bimetallism is another remedy with some for the present agricultural depression. Mr. Balfour favors it, but as a philosopher, not as a Minister. The Bimetallic league holds that gold has become relatively scarce, and that its appreciation is responsible for the fall in agricultural prices. To this Sir John Lubbock answers that the world's stock of gold is far greater to-day than it was in 1873, when prices were high, and the annual yield is greater. Ten years ago the principal banks held $£ 65,000,000$ in gold, now they hold $£ 186,000,000$. It is more probable, therefore, that the fall in
prices is due to cheaper production and transportation. Anyhow, he maintains that bimetallism is out of the question. The production of silver in 1894 was three times greater than the production in 1871, and no artificial arrangement, whether recommended by an international conference or not, can, under such circumstances, restore the metal to its former value.
Many British farmers seem to believe that the only salvation lies in applying their energy to the production of commodities like beef, fruit, butter and cheese. Last year they appear to have gone in more extensively than ever before for chcese, and this, with an increased foreign supply, caused a drop in the Canadian price of nearly three cents per pound. The imports into the United Kingdom in 1894 were $2,266,000$ cwts., of which the Dominion sent $1,142,000$, or more than half, the United States, Holland, New Zealand, France and Belgium coming after us in the order named. The factory production of Ontario now amounts to about $100,000,000$ pounds per annum. Owing to drought in the western part of the Province and the fall in price, a good number of factories closed in 1894, and, speaking roughly, there was very little money in the business.

On the other hand, English land reformers demand the breaking up of the land monopoly. "The land of this country," says one of their publications, " is fertile and well stored with mineral resources, but we have allowed it to be distorted
from its true purpose into being a mere rent-yielding machine. Agricultural or commercial depressions are artificial creations, and will pass away when the people get access to their native land."

In France, supposed to be the paradise of the small proprictor, who is protected by customs duties, the depression is throwing a great deal of land into the hands of loan companies. An economist of some note gocs so far as to say that the small holdings are likcly to be supplanted in course of time by large farms conducted on the factory system, i.e., by companies employing labor and machinery in such a way as to reduce cost of production to a minimum. In Denmark, Sweden and Holland, as well as in France, Government is paying close attention to cheese and butter for export. The butter import of the United Kingdom in 1894 came to $2,574,000$ cwts., valued at $£ 13,500,000$. Denmark supplied 1,100,000 cwts. ; France, 425,000; Sweden, 266,000; Holland, 165, 000; the Australasian colonies, 290,000; Canada, 21,000; Germany, 137,000; Russia, 79,000; Belgium, 38,000 ; the United States, 30,000 . With proper cold storage, the Canadian farmer can do better than this; only, in butter making, cheese making, and everything else, he must strive to reduce cost of production. The world is now all one market and competition so keen that the cheapest alone can survive.

The French economist just quoted tells the farmers of France that the Argentine Republic is going to "set the pace" for cheapness. The special reports issued by the British Foreign Office confirm this view. Without doubt, the Argentine possesses wonderful agricultural capabilities. The population is now about equal to that of the Dominion ; the area suitable for cereals is put at 375,000 square miles, of which only ten per cent. at the
outside is yet cultivated ; in 1894, the wheat exports to England amounted to $13,300,000 \mathrm{cwts}$., and the exports of corn to all countries reached $1,500,000$ tons, Live sheep, mutton and wool are also staples. New Zealand has hitherto supplied Buenos Ayres with butter and cheese, but the English, French and Belgian colonists are beginning to produce enough for local consumption, and will soon have a surplus for export. Wine and sugar are raised, but thic exports so far are insignificant. "The amount of capital invested by the British public during the last ten ycars," says a resident British official, " is simply extraordinary," and he describes the rapidity with which European-born settlers are getting control of commerce and industry. Transportation from the inland wheat-fields is very low owing to - the existence of fine natural waterways. The prairie region, as we should call it. begins at the seaboard; it is as though Winnipeg occupied the place of Halifax with the whole North-West behind it, and with a climate singularly favorable to grass, lucerne, corn and wheat. The drawbacks are the depreciated paper currency, which wili be overcome in time, and the absence of coal.

Our sole recourse is cheaper production. We certainly cannot hope by any effort or device of ours to increase prices in the British market. Experts say that live cattle and beef, and more especially butter and checse, can be produced in Ontario for much less than present cost of production. If this be true, the sooner the farmer learns how to do it the better. The notion that the Government should turn middle-man has bcen encouraged by the action of the Government itself in buying butter, but is radically unsound from every point of view.

Edward Farrer.


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The wisdom and farsightedness of the great business mind which has gone from us has not, however, left his industrial army disorganized; for the Massey-Harris Co., Ltd., and its affiliated industries were so well manned and their policy so well mapped out by their departed leader, that this great institution will live on to give employment to large numbers of men, and continue to make Canada famous in distant lands as a producer of farm implements. farmer boy Hart, who, from a very humble beginning, being ever ready to improve his moments and to use opportunities which others thoughtlessly and indifferently let slip, had thus risen to the head of an important industry-has finished his life's work; that Mr. H. A. Massey, who had achieved success in business, not by speculation, not by a few lucky hits, but who, little by little, by patient and constant efforts for nearly half a century in one line of business had won renown as a great manufacturer, is no more with us; that the pioneer and head of the Canadian implement business, passed into rest on Thursday evening, February 20th, 1896, in his seventy-third year.

Yes, the leading spirit of the great business enterprise, of which Massey's Magazine forms but a little part, is dead. We shall miss him-we mourn his loss, and it was very fitting that our activities should cease for a time, to pay our tribute of respect and to recognize the
death." H. A. Massey is dead! The night before this energetic and ever active spirit had taken its flight from time into eternity. Eulogy we leave to other editors and to Eulogy we leave to other editors and to
other journals. A few interesting anecdotes of this very interesting life we may relate at some future time. Suffice it now to record here the fact, that this great business man-once the

On Friday and Saturday the 21st and 22nd of February last, the engines, the wheels and the great mass of machinery of the works of the Massey Companies stood still, and solemn silence reigned, where usually there is the greatest bustle and stir and noise. In the numerons offices in this and other lands where the sign of Massey-Harrts Co., Ltd., hung over the door, pens were laid down, work stopped, and outside overhead the flag floated at half-mast. President,

## THE UNSETTLED behring sea claim.

It must shake the faith in the efficacy of the doctrines of those who champion the cause of arbitration as a means of settling international difficulties, to reflect on the length of time the Behring Sea claim has been in abeyance.

It is nearly three years ago now since the award of the Paris tribunal was delivered, but the claims of the Canadian sealers, whose vessels were confiscated on the high seas prior to that date, have been persistantly ignored by the United States Congress.

It will be remembered that the result of the labors of the commission was substantially as follows: That the United States had no exclusive jurisdiction in Behring Sea, nor any exclusive right in the seal fisheries therein, and that the eighteen seizures that were made of Canadian vessels by United States cruisers were illegal. In addition, the commission drew up a code of rules to be adopted by the interested parties for the regulation of seal hunting and the preservation of seallife. It was decreed also that the North American Republic should pay an indemnity to Canada for the loss occasioned by the illegal seizure of Canadian sealers, but the commissioners did not assess the damages nor say
what they should be, this point being left, by the mutual consent of the powers interested, for the consideration of the two governments at a future time, when a detailed statement of claim could be had.
Great Britain accordingly, on behalf of Canada, presented the Canadian claim in due course and pressed for settlement. Mr. Gresham, the then secretary of state in President Cleveland's Government, was disposed to treat the matter fairly, and the sum of $\$ 425,000$ was accordingly agreed upon as being adequate by him and Sir Julian Pauncefote, the British Ambassador at Washington, in 1893. It was then necessary to obtain the approval of Congress to the appropriation, the Canadian sealers in the meattime having signified their acquiescence in the amount arrived at. When the bill was brought before that body for approval, during the session of 1893, it was laid to one side, and again in the session of 1894 it was once more shelved, notwithstanding President Cleveland's appeal to Congress to provide for the payment of the claim. Last session it was again urged upon the poople's representatives by the administration and once more rejected by Congress. Among those who opposed the bill there was a feeling that a much smaller sum would be fixed upon were the question of assessing the damages refered to arbitration. Senator Morgan, who was one of the arbitrators in Paris, declared before Congress that many of the Canadian claims were untenable because some of the vessels seized were owned by Americans, although registered under the British flag to evade seizure for poaching. The outcome of the action of Congress has been to re-open the question of damages completely, so that it is now no longer the amount of $\$ 425,000$ that has to be considered, but the original claim of the sealers, which, by the way, amounted to $\$ 1,000.000$, together with the interest thereon that has accrued since the seizures were made. Mr. Olney, who has succeeded to the office of Secretary of State, and the British Ambassador, Canada concurring, have together negotiated a a treaty which provides for a joint commission to determine what the damages
should be, and it is agreed by both parties that the award of this commission shall be final.

Many of the American journals see in this the possibility of the United States being let in for a greater sum than that agreed upon by Mr. Gresham in 1893, and they are accordingly urging the President to recommend the payment of the original amount at once, before the new commission has had time to report.
The apparent desire of Congress to postpone payment of this just claim, indicates that the United States is still smarting under the effects of the severe defeat which its statesmen met with at Paris in 1893 ; whether this be so or not the extreme action taken by the people's representatives must greatly embarrass the administration of the day, which, through its representative, Mr. Gresham, were inclined to treat the matter in such a straightforward way.

With the Congressmen it is evidently a case of " If we must pay, we'll take our time about it."

We cannot help thinking, however, that, had the conditions been reversed, and the claim which Canada made on the United States been presented to Great Britain by the Republic for settlement, the British Parliament would have passed the item without discussion and in the same expeditious manner that the Alabama claim was settled.


Now that the mad conflagra-

## THE AFTER EF

 FECTS OF THE WAR SCARE. tion started by President Cleveland over the Venezuelan boundary question has abated, and the attendant cloud of political clamor, which for a time obscured the real issue from view, has been dissipated, it is, in the subsequent light of reason, interesting to note the effect of the policies adopted by the two interested nations. The result of the dignified and self-respectful course, which England has followed in the face of the storm of buncombe turned loose upon her by the United States, in addition to portraying the calm, imputability of the nation, exemplifies the wisdom of dispassionate reflection. While the politicians and newspapers of the United States have been indulg-ing in explosive epithets and loud but harmless invectives without reserve, Great Britain has maintained a placidly dignified policy throughout, that has completely dampened the ardour of the jingoes across the line.

The latest move made by England, namely, that in defonce of the Monroe doctrine, on the ground that she is an American power as well as the United States, is one which must also impress everyone with the value of the masterly calculating policy of farsightedness followed by that nation and of which it is the result. By it the principle is laid down that the interests of the two countries as opposed to European intervention are identical, and therefore it is imperative on the part of England and the United States to jointly uphold the doctrine enunciated by President Monroe to the exclusion of all foreign powers. It is also pointed out with equal truth and force that Great Britain holds a greater expansa of territory in the New World than the Americans, and the factors which operate for the safety of the one hold good in the case of the other. Thus it is plainly intimated, that the intervention of the European nations would be as much of a menace to British Dominions in America as to the United States, and Great Britain may, therefore, be expected strenously to oppose any move which might be made in that direction. But having gone this far it is found necessary, however, to dissent very emphatically from Mr. Olney's conception of the Monroe Doctrine. The St. James Gazette draws attention to the fact, that "The British Empire is on the continent of the New World, by as good a right as the Unitcd States themselves, or any Spanish-American Republic." Of course Canadians will concur in this idea, and we don't see by what means Americans can do otherwise. Canada, British Guiana, Jamaica, the Bermudas, and S. Lucia are all part and parcel of the one Empire, acknowledging the same Imperial head. Ontario is as loyal as any county in England-Georgetown as British as London itself. So far as Canada is concerned this state of things existed long before the United States was borm. In view of this is it not
rather daring to request that the flag of England be removed from America altogether?

Turning to the United States, on the other hand, what, may we ask, has been accomplished by the policy of filibuster and bravado?
The immediate result following close upon President Cleveland's message to Congress was an alarming depression in all American stocks; a serious credit distrust in the money markets of the world; a financial panic, causing a depreciation in one day of nearly $\$ 150,000,000$ in the value of railway property; a sacrifice sale of American bonds to the extent of over $\$ 50,000,000$ and the possibility of a war for which the United States was not in the least prepared, with a country whose forces are always in constant readiness for any emergency that may arise. All this, following in the wake of Mr. Cleveland's advice to Congress of Decomber 3rd last, in which, after referring to the already existing depression, so prevalent in the States, he says, "We shall he wise if we realize that we are financially ill, and that our restoration to health may require heroic treatment and unpleasant remedies," and again, "I especially entreat the people's representatives in the Congress, who are charged with the responsibility of inaugurating measures for the safety and prosperity of our common country, to promptly and effectively consider theills of our critical financial plight," would seem to indicate that either Mr. Cleveland himself, when he framed his ill-timed message on the Venezuclan question, did not fully realize the "critical financial plight" in which the United States was placed, or that he was sublimely indifferent to its ills altogether; it would appear that even if he was awake to the financialindisposition of his country the remedies which he employed for its "restoration to health" will by this time be thought by the people of the United States certainly "unpleasant," even though, as he says, the treatmont may seem somewhat "heroic." At any rate, judging in the light of after events, the policy of cool calculation and dignified composure has apparently won the day.

REMEDIAL LEGISLATION.

IT seems more than probable that the coming Dominion elections will be fought out on the lines of Remedial Legislation-at least that question will be a leading issue in the contest that is to come, no matter to what extent our statesmen may strive to remove it from the political arena beforehand.

Without discussing the pros or cons of the issue, or expressing an opinion this way or that, for it is not in our province to do so, we cannotrefrain from drawing attention, as an independent journal, to the harm being done Canada by the introduction of religio-racial questions, like the present one, into the field of politics.

There can be no disputing the fact that the raising of such cries is doing much towards keeping this country back. This is exemplified in a dozen different ways. By the discontent which such questions engender; by the interruption and unsettling of business; by the animosity and strife that is created, and by the want of faith in ourselves and in Canada which they cause. In these and in many other ways too numerous to mention are seen the disastrous consequences which follow the impolitic introduction of such issues.

The past history of these questions shows that, by appealing to our worst impulses, individuals are pushed into prominence who would otherwise have no weight or standing in the community whatsoever. Tbe hypocrisy of their professions is borne out by the fact that the moment such men acquire the object for which they have been striving their ardor cools, and they grow faint in the support of a cause which they have made use of as a stepping stone to the object of their ambition, or else they suddenly find new light which requires them to renounce that cause altogether.

The fostering of discontent and the promotion of discord between two bodies of the commanity is something which in many countries would be looked upon as high treason, and the individual who adopted such a means for obtaining votes would be immediately imprisoned as an anarchist of some kind or other, and an arch enemy to the country; but judging
by our reception of such matters it would seem that we in Canada had got well beyond any little weakness of that kind. Within the past decade there has been a multiplicity of race and religious issues flaunted in the face of the electorate of this country, and the individuals who have been responsible for their creation have in turn been lauded up to the skies by the cajoled community on whom they have imposed.

These questions of race and creed have no fitting place in politics, and the history of the world shows them to be most dangerous factors with which to tamper. It was the attempt to govern the state by the church which led indirectly to the Reformation; it was the raising of a religious cry among the numerous castes of India which led to the Sepoy mutiny of 1857; and to-day it is religious fanaticism which is prompting the terrible massacres at present taking place in Armenia.

While we in Canada may not be on the verge of either a mutiny or a massacre, yet the immodiate result of the course we are at present pursuing may prove ultimately more disastrous. By constantly arraying the Protestant Provinces against the Catholic ones; by continually opposing English Ontario to French Quebec; by perpetually antaginizing one religious denomination with another, the natural outcome must be, that each will become so thoroughly disgusted with the hope of ever getting along peaceably with the other, that it will cast about for a means of escape from the supposed grievances, which existonly in the minds of those unscrupulous politicians whose imaginative faculties are certainly better developed than their knowledge of truth and veracity. The escape, and the only escape, which will then present itself, will be assuredly annexation to the United States-a step that no Canadian in the posscssion of his normal faculties would think twice of advocating at the present day.

It therefore behoves every true Canadian, who has the interest of the country at heart, to discountenance all race and religious cries, and discredit the narrow politicians who advance them.


[^0]:    DRAWN BY C. M. MANLY AFTER PHOTO.

[^1]:    1. Emerald 2. Silicated Wood
    2. Charcoal
    3. Silver Nitrate
    4. Leather
    5. Leathen
    6. Amber
    7. SUGA9
    g. NetEORIC IRON
    8. Agate

    1 1. Quahtz Cfystal

