General Business.

50 YEARS!

For the Last 50 Years Cough Medicines have been coming in and dying out, but during all this time.....

SHARP'S BALSAM OF HOREHOUND

Never Left the Front Rank for Curing Croup, Coughs and Colds. All Druggists and most Grocerymen sell it. 25 Cents a Bottle.

ARMSTRONG & CO., PROPRIETORS.

NOTICE TO HOLDERS OF TIMBER LICENSES

CROWN LAND OFFICE, 12 JUNE, 1894.

The attention of all holders of Timber Licenses is called to Section 19 of the Timber Regulations, which reads as follows:—

"19 No Spruce or Pine trees shall be cut by any Licensee under any License, nor even for piling, which will not make a log at least 12 feet in length and ten inches at the small end; and if any such shall be cut, the Lumber shall be liable to double stumpage and the License be forfeited."

and all Licensees are hereby notified, that for the future, the provisions of this section will be rigidly enforced.

L J TWEEDIE,
Surveyor General

IMPROVED PREMISES

Just arrived and on Sale at

Roger Flanagan's

Wall Papers, Window Shades,
Dry Goods,
Ready Made, Clothing,
Gents' Furnishings
Hats, Caps
Boots, Shoes &c. &c.

Also a choice lot of

GROCERIES & PROVISIONS.

R. FLANAGAN,

ST. JOHN STREET CHATHAM.

BIG OPENING OF DRY GOODS, ROOM PAPERS, ETC. AT R. A. MURDOCH'S.

FURNACES FURNACES, WOOD OR COAL, WHICH I CAN FURNISH AT REASONABLE PRICES.

STOVES

COOKING, HALL AND PARLOR STOVES AT LOW PRICES.

PUMPS, PUMPS,

Sinks, Iron Pipe, Baths, Creamers the very best, also Japanned stamped and plain tinware in endless variety, all of the best stock which I will sell low for cash

A. C. McLean Chatham.

HOTEL For Sale or to Let,

The Keary House, Bathurst, which is a most desirable hotel for a profitable business. The hotel is pleasantly situated, fronting the harbor and is well patronized by summer tourists.

Possession given 1st May, next. Apply to

JOHN SIVEWRIGHT.

Bathurst, March, 25th, 1895.

Shanty, Camp and Boat Stove.

[From Miramichi Advance of Oct 11.]

Mr George Marquis of Chatham will be looked upon as a benefactor of small fishermen, sportsmen and others who may have the good fortune to procure stoves of the new pattern designed by him the first sample of which was put together at his well known shop at Chatham on Tuesday afternoon and shipped yesterday to Negaac It is to be used in a moose-shooter's camp at Tabusintac and for that purpose as well as for heating and cooking in small fishermen's shanties it is just the thing It is about 20 inches long, 14 inches from front to back and the same from bottom to top The bottom, top, door and dampers, stovepipe of cast iron and the sides and ends are composed of a sheet of 16 gauge sheet steel It will hold nearly twice as much wood as a sam stove while owing to a new and peculiar form adopted in the bottom, it will burn either a small or large quantity of fuel, as may be desired It may also be fitted to burn coal There is a draft for forcing the fire and a damper for lessening the heat at will The top has two pot-holes and these may, by the removal of the dividing centre-piece, which is of the usual form, be converted into an oblong hole for a big boiler or oblong pan Altogether, the new shanty-stove seems to meet a requirement that is more than local, and the cost, $6, places it within almost everybody's ability to buy. Mr Marquis has just begun to fill orders, and it will be well for those who intend to fish smelts during the coming winter, as well as sportsmen and gunners who want to be comfortable and, at the same time, have a stove on which they can do quite a range of cooking to place their orders with him, as early as possible.

CITATION.

NEW BRUNSWICK,
NORTHUMBERLAND S S

To the Sheriff of the County of Northumberland or any constable within the said County, greeting:

Whereas Hugh Cameron and David Loggiet Executors of the last will and testament of Alexander Loggie, late of the parish of Chatham in the said county, farmer, deceased, have filed an account of their administration of the said estate and have prayed that the same may be passed and allowed and the estate closed: You are therefore required to cite the heirs and next of kin and the legatees of the said deceased, the creditors and all others interested in the said estate to appear before me at a court of probate to be held at my office, Newcastle, within and for the said County on Thursday, the 6th day of June, next, at 10 o'clock in the forenoon, to attend the passing and allowing of the said account and the closing of the said estate.

Given under my hand and the seal of the said court, this 7th day of May, A D, 1895.

(L S)

(Sgd) G B FRASER, Registrar of Probates for said County

(Sgd) SAM THOMSON, Judge of Probates County Northumberland.

9 CORDS IN 10 HOURS

DRAWING SAWING SAWING DOWN TREES

IN 10 MINUTES. Send for free illustrated catalogue. Over 100 testimonials from thousands who have proved these to be wonderfully, 10 times as fast as axes. Solid like a chisel. One man cuts as fast as two ordinary men with saws. One man saws more timber with 10 than two men with saws. Over 20,000 in use. We also make larger sawing machines, 30 to 60 inches. Agents make large wages. Mention this paper. Address, EMPIRE MANUFACTURING CO., 241 to 249 W. Jackson Street, Chicago, Ill.

Miramichi Advance.

CHATHAM, N. B., JUNE 6, 1895.

Ottawa.

The prolonged debate on the introduction of the Budget has come to an end, to the great relief of the country at large and the big daily newspapers in particular. The people, probably, fully understand that the whole controversy, briefly stated, centres around the wish of the Opposition, led by Mr. Laurier, to have the country believe that the party led by Sir Mackenzie Bowell is misgoverning us, while Mr. Foster and his associates in the Commons, where the talking has been done, desire to impress upon us that the gentlemen of the Opposition don't know what they are talking about, and that their party were a greater failure in governing when they were at it from 1874 to 1878. We shall all be thankful to learn that the proceedings at Ottawa are, in future, characterised by less useless talk and more necessary business. The squabbles between the ins and outs are becoming very monotonous.

A New Sulphite Fibre Mill on the Miramichi.

On Monday last work was begun on the site of the proposed pulp mill about to be erected by the Masterman Sulphite Fibre Company, of which Mr. W. H. Masterman of Montreal is the president and Mr. Thomas Allison general manager and chief engineer of construction. The mill is designed to turn out thirty tons of pulp per day. There were eight men at work on Monday, and the force is being daily increased, so it is probable that there will be twenty to-day.

The site of the new mill is the well known Gilmour-Rankin Water Mill site at Mill Cove, on the Newcastle side of the Miramichi, nearly opposite the lower end of Chatham and about a mile and a half from the Chatham ferry landing. It has of late been owned by the Bank of Montreal, from which it was purchased within a week or two by the Masterman Company.

The property comprises several hundred acres, including the most valuable water privilege on the lower Miramichi, giving a twenty five foot head at the mill site. It is, we understand, intended to run the new mill by water at certain seasons of the year, although full steam power, as well as water-power, is to be put in. No pumping plant will be necessary, as there is a sufficient supply of water by gravitation for washing the pulp.

A most advantageous feature of the site chosen is its adaptability for the purposes of a pulp mill. The excavations in the rock of the steep side hill, and the walls of solid masonry which were made and built for the big saw-mill that formerly occupied the spot, are utilized by Mr. Allison in his plans for the new structure, and the peculiar natural formation of the ground will enable the arrangement of the plant to be so made that the transmission of the wood in the process of manufacture will be largely by gravitation, thus requiring a minimum of power.

The work of repairing the dwellings on the property, so that they will be fit for occupancy by workmen and others, is now going on under Mr. Wm. Scott of Chatham, who is one of our most competent mechanics. He will also be foreman of the carpenter work of the new buildings to be erected, and is now getting the dimensioned stuff ready for the frames of the different buildings. This part of the work could not well be in better hands than those of Mr. Scott.

The first building to be erected will be the machine shop, for which there is now on the way here from Montreal two large lathes, a planer, drill and other plant, besides a full outfit for the blacksmiths' shop. In the same consignment from the Company are picks, shovels, jack screws, iron sledges, etc.

Besides the machine shop there will be eight other buildings as follows:—

Store House 120x50 feet—30 feet high.
Paper House 150x50 feet—30 feet high.
Galloway Boiler House 50x50feet—30 feet high.
Boiler House, burning refuse, 50x50 feet—30 feet high.
Wood-room house 50x60 feet—45 feet high.
Acid plant house 70x34 feet—65 feet high.
Digester house 30x80 feet—68 feet high.
Blow pit house 30x80 feet—20 feet high.

These buildings will be of wood, but entirely iron-cased, the roofs to be covered with corrugated iron and the walls with plain iron, all neatly painted.

There will be six iron chimney stacks eighty feet high, for carrying off the smoke, acid fumes, etc. The intention of Mr. Allison is to push the work along with the greatest expedition, and he expects to have the mill in operation by the beginning of next year. By the time the buildings are roofed in, the digesters, of which there will be six, as well as the engines and other plant and machinery, will be ready for installation, and he expects to begin making arrangements to purchase pulp wood in three months' time. The undertaking, therefore, seems to be in a fair way to realize the most sanguine expectations of its friends in the matter of rapid construction. Indeed, if all goes well, it will be built in quicker time than any pulp mill has ever been in Canada. The company is fortunate in having the services of so competent and experienced a man as Mr. Allison, and one who is so thoroughly in earnest and zealous for the success of the work in which he is engaged.

Taken altogether, we believe this Mill Cove site is the most advantageous of any in the province for a pulp mill, and if there is money to be made in the business, there ought to be no fears entertained but that the promoters of the Masterman enterprise have a bright outlook for a splendid financial success.

It is conceded that the pulp industry is hardly more than in its infancy in Canada, and wonder is often expressed that it has not been more fully developed here. New Brunswick and Quebec provinces, as is well known, have thousands of square miles of spruce of a quality that makes the finest sulphite fibre in the world. The Baltic forests have been so largely drawn upon by the pulp mills of Norway, Russia and Germany that they must soon feel the effects of diminished supply, just as the United States has already done. There is an ever-increasing demand for wood pulp, both mechanical and sulphite, and it cannot be long before Canada will become the chief centre of supply, simply because her spruce forests are the most extensive in the world, and those of other countries, where hundreds of thousands of tons of pulp are now made, will be forced, by want of the raw material, to reduce their output. We published, last week, an article from the New York Scientific American on the subject of wood pulp, and an extract therefrom will bear quoting again. It is as follows:—

"In the United States, in 1890, the production of wood pulp was 97,000 tons. In 1894, it probably exceeded a million tons. In Germany it increased 60 per cent. from '90 to '93. Norway exported about 200,000 tons in 1890, and over 300,000 tons in 1894.

"With regard to Canada, it is somewhat surprising to find the pulp manufacturing industry so far behind. As a suitable country for the production of the material Canada stands among the foremost in the world. It might be a great national industry. They possess enormous forests of suitable wood. It seems almost incredible that paper manufacturers of the United States should go up into Canada for large supplies of wood, manufacture it into paper, and then export the paper into Canadian markets. The United States manufactures excluding, perhaps those of the New England States, are fully aware that to Canada they must look for their future supply of raw material. Canadians are certainly masters of the situation, and with the requisite enterprise and capital, they may yet become one of the largest producers of pulp and paper in the world. It is to the interest of Canada to manufacture on a large scale both pulp and paper. It is satisfactory to find that one or two Canadian firms have been enterprising enough to commence exporting pulp to England, and have meet successfully faced the competition with Scandinavia. The quality of this Canadian pulp is of very high standard and is certainly equal, if not superior, to any European make. The paper imported into Canada from the United States alone amounted in 1893 to $730,000."

It seems, in view of the conditions and outlook of the pulp industry the world over, that there is no safer enterprise in which capital can embark in Canada than in the manufacture of wood pulp, and no part of the Dominion offers a more promising field than northern New Brunswick. The manufacture is one that, in New Brunswick at least, is only just emerging from the speculative and experimental stage in regard to production of the pulp itself, while the uses to which it can be put are constantly increasing. Paper, of course, is the chief article into which it is converted, but it is rapidly coming into use in textile articles—even in imitation silk—in furniture, wheels, carriages, trunks, household utensils of indurated fibre, barrels, water pipes, floor-coverings, ornamental work, etc. We shall have two big pulp mills in operation next year on the Miramichi, but there is no good reason why we should not have two or three more distributed at different points on the river, and others at inviting locations in these Northern counties of New Brunswick.

The Miramichi Misrepresented.

Under the head of Freights and Shipping, the London Timber Trades Journal of May 25th, says:—

A firm of shipowners, writing to a contemporary, says that Miramichi is one of the most undesirable ports in Canada. "Stevedoring alone costs six shillings per standard. The depth of water only averages about 18 feet, and with other disadvantages the rate of freight should be considerably higher than current quotations."

The firm referred to is evidently prejudiced or it would have stated that there are items of charges at other ports, which are unknown on the Miramichi and that the absence of these more than compensate for the few extra pence on stevedoring.

As to the depth of water it will be assumed that Pilot-master Robert Walls is a competent authority on the subject. On our questioning him yesterday on the he said:—"Spring tides give us twenty-two feet on the bar. We have a vessel of that draught to take out on Friday. You can say—in order to be quite safe—that there is twenty one feet on the Miramichi Bar." We have taken a vessel drawing 22 ft. 9 in. out."

Brant-Slaughter.

Much complaint is made respecting the pursuit of brant during May at Brant Island and other points in Tabusintac Bay, by persons who come over from Prince Edward Island for the purpose of killing the birds, mainly for their feathers. The practice is particularly objectionable as the brant are on the eve of their breeding season and each female killed contains a dozen or more eggs in embryo. Our game law is silent respecting any season of protection for brant and geese, the reason generally assigned being that they are migratory birds, having no habitat here. Unlike the geese, which leave our shores as soon as warm weather sets in, brant linger with us until the first week in June, so that between their fall and spring visits they are with us for about four months of the year. This ought to be considered a sufficient reason for not permitting them to be slaughtered indiscriminately within a month of their egg-laying time. Our law relating to the protection of birds and animals ought, therefore, to be amended so as to impose penalties for killing brant after the first day of May.

General Dow's Explanation.

Under the heading, "Hon. Neal Dow's Explanation," we find the following in the World:—

DEAR SIR:—Will you kindly allow me space in your valuable paper for an explanation in regard to an item which appeared in the ADVANCE of the 23rd inst., stating that Hon. Neal Dow, in conversing with a stranger in the City of Portland, remarked 'that if time permitted he could show him some of the handsomest residences in the city, which had been erected by liquor dealers since Prohibition became a law of the State of Maine!' The following is Hon. Neal Dow's reply to that statement:

PORTLAND, ME., May 27th, 1895.

DEAR SIR: There is some truth in the matter you speak of. But that was when the law was not well enforced, when the officials were false to their duty and to their official oath.

Respectfully,
NEAL DOW.

Thanking you Mr. Editor, I remain,
Yours for
PROHIBITION.

Chatham, N. B., May 30th, 1895.

There was nothing in connection with General Dow's statement at the time he made it to indicate that he was referring to a very remote past, as will be understood from the words he used. Here is what he said—and it was on the 24th June 1893:—

"The liquor traffic can never be put down so long as there is any profit remaining in it. It is carried on for profit and not for the fun of the thing. If I could drive you around our streets I could show you some very fine houses owned by rumsellers who made their money out of rum."

The evidence of General Dow and others, taken by the Dominion Royal Commission, enquiring into the subject of the liquor traffic, went to show that at a date less than two years ago, there was no diminution of the traffic in Portland, compared with previous periods in the last twenty years or more. Hon. Geo. P. Wescott, President of the Portland and Rochester Railway Company—ex Mayor of Portland and a member of the State of Maine Senate—said to the Commission that while the law had grown stronger he did not see that the effect of it had been to reduce the number of arrests or the amount of drunkenness in the city. He said "the law was more strictly enforced in 1873-4 than he had ever known it to be before or since" and that the total arrests in the city in that year was 3,870, out of which 2,011 were for drunkenness and 389 for drunkenness and disturbance, making 2,400 in all, which were directly chargeable to the liquor traffic. Mr. Wescott said that besides the city agency, where anyone who would simply say he wanted liquor for medicinal or mechanical purposes could get what he called for, without a certificate of a doctor or anyone else, there were low grog shops, and many peddlers in the business of disposing of the cheapest kind of whiskey, costing from $1.00 to $1.10 a gallon—liquor that was "specially fixed up for the Maine market" which was so bad that two glasses of it would at once make a man drunk. A part of Mr. Wescott's examination by Rev. Dr. McLeod was as follows:—

"Do you think there are large numbers of places where liquor is sold in Portland in the way you have described?"

"There are. A few men have for years controlled the liquor traffic in Portland. The rum is sold by an irresponsible party, but there is a responsible party out of sight at the back of it. I knew one man who had nine or ten places selling liquor and he died worth $40,000."

"Are you speaking of a recent period?"

"Yes. He had for years nine or ten places which were really saloons."

The foregoing testimony from a gentleman who, in the senate, voted for the prohibitory law, and which is in accord with that of dozens of other witnesses, taken together with the fact that in the Portland city agency alone $80,000 worth of liquor was sold to whoever would buy only the year before the commission made its enquiry, ought to sufficiently demonstrate the fact that General Dow's zeal in the cause of prohibition makes it difficult for him to realize that it is not necessary to look to a very remote past in the history of Maine, to convince one that it is a pretty bad rum-selling and rum-drinking State. Everybody knows that there is no serious attempt to prevent the rum-traffic in Bangor or Augusta, and a statement to the Commission by Bishop Neeley indicates the condition of things generally over the State. He said:—

"Two or three years ago I was invited to a dinner in this hotel (the Falmouth) given by the Commercial Travellers—and, by the way, I would say to the commissioners that if they want to find out the exact facts of the case they should interview some of these commercial travellers—who asked me to dine with them here and I did so. I turned to one of them at the dinner and said I want to ask you a question, because it has been often asked of me: I do not suppose you happen to want to have anything to drink on your travels, but if you do do you carry it with you?—I want to ask you this question because it has been often asked of me. Have you ever found in any of your travels a place so small (they do not visit the very smallest hamlets) where you cannot have something to drink, if you want to have it, say bad whisky, if you cannot get anything else? He smiled and said: "I do not think I have ever seen that place in the State of Maine yet. I have seen in small places oftentimes indications that persons had been drinking too much.

As an illustration of the persistency with which General Dow clings to the idea that his prohibitory law must necessarily prohibit, the following, which is in the evidence of Mr. Franklyn R. Barrett, President of the Portland Savings Bank, is appropriate:—

"Two years ago, I came across—and I wish I had kept it—a verbatim report of a speech that General Dow made 35 years ago. He then stated that liquor would soon be crushed out of the State; a few more alterations of the law, and that would be the end of the liquor traffic in Maine. General Dow has had 40 amendments to the law since, and he is saying the same thing to-day. The thing is preposterous and the man is insane on this question. That is the amount of it, so far as his evidence in connection with prohibition is concerned. He is conscientious enough, but he believes what he wishes to believe. I know General Dow very well and like him.

The writer of the letter to the World wrote General Dow, no doubt, in the hope that the good old gentleman would deny having said what we stated he did. His reply must have been disappointing, even although it was so phrased as to leave the impression that the law is now well observed. It is the fact, however, that the law is neither more nor less successful now than it has been in the average for the last twenty years or more, because public sentiment is not in favor of its full enforcement—to say nothing of the unwillingness of either branch of the Maine legislature to go as far as General Dow and his associates desire them to do in the way of more drastic enactments than they now have. This, being true, ought to be conceded by all fair-minded people, for no cause, however good of itself, can be promoted by misrepresentation, or attempts to place those who state facts bearing upon it in a false position.

The Supreme Authority in English.

The Great Standard Dictionary, just issued by Funk and Wagnalls Company, sufficient of which has been shown to us to justify an expression of opinion as to its merits, consolidates the wisdom of the ages into one volume as fully as the scholarship and wealth of to-day is able to do so in one work. Its issue in one and two volumes, of 2,318 pages, of especially good paper, and artistic plates, treating most fully 301,865 words—which is more than twice the number in any single vol. yet issued, and 75,000 more than in the great Century the 6 volume dictionary which costs in similar binding near $75,—places the publishers, who expended $1,000,000, in its production, among the benefactors of the race.

From any point whatever there is no comparison between it and any dictionary yet issued. The Century employed eighty-one specialists, the Standard 247, a great percentage of whom had worked on the Century and the "Standard" does not of course, lose anything by the experience they thus gained. On the completion of the Century, the publishers used the following prophetic words in the Century Magazine, January 1892:—"One man alone, however great, cannot make any complete and accurate dictionary of all parts of the language, nor a good dictionary even of many parts of the language, nor an absolutely complete and authoritative dictionary of any part of the language. The human intellect is too limited and life too short. A large group of specialists working methodically under a co-operating general editor; These are the lexicographers of to-day and of the future."

The secret of the Standard's success in compressing so much information into so small a space is explained by the carrying out in a wonderful manner of a complete process of tabulization in connection with almost every word. In its choice of specialties it represents every leading university and educational institution in the English-speaking world—over 120 in all—and the literary excellence of the work is shown by its actual average cost of $450 a page, while the Century cost $140 and Webster's latest International only $150 per page.

Some of the Standard's distinguishing features are that the etymology is placed after definition; Most common meaning is given first; the scientific alphabet is used in giving pronunciation; quotations are located; disputed spellings and pronunciations are—under direction of Prof. March—treated by a committee of 50 leading philologists,—"American," English, Canadian, Australian, &c—showing in every case of dispute the opinions of each and also the side taken by every dictionary yet issued, making it a dictionary of dictionaries. It is the most complete and accurate book of synonyms and antonyms published. Five thousand cuts were made expressly for the work. Some are full page, in colors, made by Messrs. Prang, and are true works of art.

The appendix includes many special points of excellence never attempted in any work of a similar kind. In fact it is not easy for anyone in live business, the professions, mechanics, literature, art, science or mercantile work to get along in this living age to the best advantage without it. Prof. Wm. Clarke, L.L.D., D.C.L., of Trinity College, pronounces it: "As near perfection as we are likely to attain." Justin McCarthy, the historian and member of the House of Commons, London, England, recently wrote: I refer to is (the Standard) every day—never once without feeling that it has given me a helping hand in my studies and in my writings. It is destined to be a conclusive authority to the English speaking peoples for many a generation." J. A. McLellan, M. A., L. L. D., Principal of the School of Pedagogy, Toronto, says: "I feel but little doubt that the Standard Dictionary will be preferred to all others by the teacher, the student, the business man and the man of letters." Prof. Peabody, Harvard, says: "It will prove of invaluable service and will last while the English language remains, essentially unchanged. It may need supplements, but will not have to be rewritten for three or four generations to come." A. H. Sayce, Oxford, Professor of Comparative Philology, says:—"It will deserve all the encomia passed upon it."

Our reason for referring particularly to this work is because it is so incomparably superior to all others in the language that no one who wishes to procure a perfect dictionary should think of any other when they can obtain it. This notice is not an advertisement but is simply a reference to the greatest literary work ever produced—and based on its merits.

"Advance Scientific Miscellany."

PHYSIOLOGICAL EFFECTS OF MUSIC—SACCHAROMYCES PORCUS—THE SEICHE—SYNTHESIS OF LIVING MATTER—A VAST EARTH-RIFT IN ASIA AND AFRICA—A SNOW-CROWNED CONFLAGRATION—WATER FROM GRANITE—RACE DETERIORATION IN FACTORIES—MORE OF ARGON'S INERTNESS.

The *seiche* of Lake Geneva consists in an alternate rise and fall of the surface of the water from a few inches to about six feet, this curious oscillation sometimes lasting 20 or 25 minutes. Prof. Forel believes the cause is neither storms, winds nor pressure-variation, but earth-tremors.

The brilliant spectacle of a raging fire with an eddying snowstorm above it, all under a bright starlit sky, was a meteorological oddity seen at Agen, France, on a zero night of last winter. The water thrown on a burning saw-mill was instantly vaporized, and rising into the cold, dry air, was immediately condensed as snow, which was whirled about by the strong northwest wind.

A new micro-organism is reported by Dr. F. J. Thornbury to be found in 50 out of the 1000 hogs inspected daily at the government abattoir at Buffalo. The organism is a peculiar fungus, having the forms of bundles of threads of various colors. It belongs to the saccharomyces or yeast group, and has peculiarities of growth contrasting in many respects to other organisms. The blood of infected animals is heavily laden with the fungus, which proves fatal to rats and white mice within 24 hours after inoculation.

The making of morphine, quinine, and similar bodies artificially, stated Dr. Ludwig Mond in a recent address at Owens College, is a matter to be expected in the near future, as also the synthesis of the ingredients of our daily food, such as sugar, starch and gum. But it is quite different with those important parts of our food called the albuminous bodies. Kekule brought forward the idea that if ever chemists should succeed in obtaining albuminous bodies artifically it would be in the state of living protoplasm, perhaps in the form of those structureless beings which Haeckel called the "Monera;" but all attempts hitherto made for the purpose of producing living matter artificially have failed. The enigma of life can only be solved by the synthesis of an albuminous compound. Prof. Fischer, in Berlin not long ago, also expressed himself full of confidence that the time would arrive when we might attack successfully even the problem of the constitution and synthesis of the albumenoids, and might thus approach the problem of the origin of life.

What is pronounced by Prof. Heilprin one of the most interesting features of the earth's surface, on account of its unique development and extraordinary persistency, is the discovery of Dr. J. W. Gregory, of the British Museum, in Eastern Africa. It appears to be a great crack or break in the earth's crust, resembling the lunar rifts that have so mystified astronomers. This remarkable depression communicates with the basin of the Red Sea, and even the Dead Sea and the valley of the Jordan, and runs southward almost to the Cape as a deep and narrow valley, occupied partly by the sea, and by salt steppes and old lake basins, and a series of over twenty lakes, only one with an outlet to the sea. For 150 miles or more from the Great Nyanza to beyond the first degree of south latitude, could be traced a parallel-sided valley, from 20 to 25 miles wide, with steep walls, in places 800 to 1000 feet high.

An account of the sinking of wells in granite and other crystalline rocks, where water is not generally supposed to exist, has been given to the Paris Academy of Science by M. Nordenskjold. Certain pilot and lighthouse stations in Sweden have been troubled by the lack of a suitable water supply. From the fact that water had been found in deep boreholes on rocky islets, Nordenskjold concluded that temperature changes produce shearing stresses between surface rock and that lower down, forming horizontal fissures into which water must percolate from the surface. It was believed that this water would be fresh, as the water reaching iron mines extending far under the sea is never salt. Acting on this theory, a well was last year sunk in the island of Arko to a depth of 100 feet below sea-level, when a horizontal fissure was encountered, from which was obtained a daily supply of 4,400 gallons of perfectly fresh water. Similar wells in other localities yielded water at a depth of 110 to 120 feet. The rock in each case was granite, gneiss or diorite, and the wells—2½ inches in diameter—were bored by diamond drills.

The conditions of mill life in Lancashire, it is pointed out, are lowering the physique of the workmen, who are becoming stunted and prematurely enfeebled. Football is popular, it is said in illustration, but the game is mostly played by imported Scotchmen, while the natives feebly look on. In Oldham the police force is chiefly made up from the country districts, Scotland and Ireland, few of the townsmen coming up to the required standard of physique. Among well-to-do families in the manufacturing districts, the young women show a striking superiority over the young men. The former remain longer at school than their brothers, and are more favored in out-door exercise and surroundings, the result being that they are very often—if not generally—taller and more finely developed. The women in the factories, however, are even more weakly and stunted than the men.

Music as a therapeutic agent is no new idea, as is witnessed by the case of David and Saul, and it seems to have especial value in certain nervous disorders. It has been shown to have effect upon the respiration, pulse, and the muscular system. In a new investigation by Prof. Tarchanoff, of St. Petersburg, tests were made with the ergograph of Mosso, when it was found that if the finger was so fatigued as to be incapable of making any mark except a straight line upon the registering cylinder, music had the power of making the fatigue disappear, so that the finger could make lines of different height according to the degree of excitation. Sad and solemn music, however, had the opposite effect, checking the contractions. Prof. Tarchanoff concludes that the influence is of a physiological character, and that the voluntary muscles, being provided with two sets of fibres, "act in relation to the music similarly to the heart—that is to say, that joyful music resounds along the excito-motor fibres and sad music along the depressent or inhibitory fibres." In experiments on dogs, music proved to be capable of increasing the elimination of carbonic acid by 16.7 per cent. and increasing the consumption of oxygen by 20.1 per cent. It also increased the functional activity of the skin.

A Fizzle.

The hearing in the case of Judge Hanington's charge, that Court Stenographer Fry, had inserted certain words in an order he had made in connection with the disposal of the moneys of the consolidated Electro Railway, St. John, took place in the latter city last week before commissioner C. W. Weldon. It was, from the start, conceded by the Judge that Mr. Fry, had not done anything improper in the matter, and he was entirely exonerated.

During the hearing there was a considerable show of political rancour between the Judge and the Attorney General and Hon. Wm. Pugsley. The Judge referred to "the Leary telegram," and expressed the wish that he were still in the legislation or not at the bar, when he would say things he could not say as a judge, and the Attorney General said that as His Honor had never accomplished anything while in the legislature he could not understand why he would wish to be there again, etc.

The affair was simply the outcome of an attempt, apparently led by the Globe, to injure the political and professional standing of the Attorney General and Dr. Pugsley, and Judge Hanington was led into the position of aiding the conspirators by not being sufficiently guarded against the influence of old associations. His friends were glad that he receded from the false position in which he had placed himself in making the imputations he did against Mr. Fry.

"The Moon's Story."

Under the title of "The Moon's Story," Sir Robert Ball, Lowdean Professor of Astronomy and Geometry at Cambridge—formerly Royal Astronomer of Ireland—communicates an interesting article to the Scientific American of New York, in which he advances the doctrine that the tides of the earth, which are caused by the action of the moon, act as a brake upon it in its diurnal revolutions. He argues at length from the well known fact that a certain amount of work can be done only by the expenditure of a certain quantity of energy and that there is, in nature, no such thing as the creation of energy; also, that as the tides are doing work there must be some source of energy on which they are enabled to draw and, while the moon's attraction causes the tides, yet it is not from that planet that the tidal energy is drawn. He proceeds to consider the rotating earth as a great fly wheel, which contains a prodigious store of energy. That energy is, however, he says, never added to, for there is no engine available. If, however, no energy were withdrawn from the earth, then the globe would continue to spin round its axis once every twenty-four hours forever. As however the tides need energy to get through their work, they abstract what they require from the store which they find at hand in the rotation of the earth. Proceeding, Sir Robert says:—

"This withdrawal of energy from the earth is incessantly taking place along almost every coast. From day to day, from century to century, from age to age, energy is daily being withdrawn and daily wasted, never again to be restored. As the earth has no other means of replenishing its stores, the consequence is inevitable. The quantity of energy due to the rotation of the earth must be gradually declining. Stated in this way, perhaps the intimation is not very alarming, but, placed in other words, the results at which we have arrived assume the more practical expression that the tides must be gradually checking the speed with which the earth turns round. The tides must, in fact, be increasing the length of the day. In consequence of the tides which ripple to and fro on our shores, and which flow in and flow out of estuaries and rivers, to-day is longer than yesterday, and yesterday is longer than the day before. I may, however, admit at once that the change thus produced is not very appreciable when only moderate periods of time are considered. Indeed, the alteration in the length of the day from this cause, amounts to no more than a fraction of a second in a period of a thousand years. Even in the lapse ordinary history, there is no recognizable change in the length of the day. But the importance of our argument is hardly affected by the circumstance that the rate at which the day is lengthening is a very slow one. The really significant point is that this change is always taking place, and lies always in the same direction. It is this latter circumstance which gives the present doctrine its great importance as a factor in the development of the earth-moon system.

"We are accustomed in astronomy to reason about movements which advance for vast periods in one direction, and then become reversed. Such movements as this are, however, not the real architects of the universe, for that which is done during one cycle of years is undone during the next. But the tides are ever in operation, and their influence tends ever in the same direction. Consequently the alteration in the length of the day is continually in progress, and in the course of illimitable ages its effects accumulate to a startling magnitude.

"The earth revolves on its axis once in twenty-four hours. There was a time, millions of years ago, very likely, when it revolved once in twenty three hours. Earlier still it must have spun on its axis in twenty-two hours, while this succeeded a time when the day was only twenty hours. The very same arguments applied in those times which apply at the present, so that if we strain our vision back into the excessively remote pasts we find the earth spinning ever more and more rapidly, until at last we discern an epoch when the length of the day, having declined to eight hours and seven hours, had at last sunk to something like five or six hours. This is the time when the moon's story commences. At this eventful period the earth accomplished about four revolutions in the same time that it now requires for a single one. We do not attempt to assign the antiquity of this critical moment. It must certainly have been far earlier than the time when this earth became fitted for the reception of organized life. It must have been at least many millions of years ago. If it be thought that the vagueness of our chronology is rather unsatisfactory, then it must be remembered that even historians who have human records and monuments to guide them are still often in utter uncertainty as to the periods during which mighty empires flourished, or as to the dates at which great dynasties rose or perished.

"But our story has another side to it. Among the profoundest laws of nature is that which asserts that action and reaction are equal and opposite. We have seen that the moon is the cause of the tides, and we have further seen that tides act as a brake to check the speed with which the earth is rotating. This is the action of the moon upon the earth; and now let us consider the reaction with which this action must be inevitably accompanied. In our ordinary experience we observe that a man who is annoyed by another feels an unregenerate impulse to push the annoying agent away as far as possible. This is exactly the form which the reaction of the earth assumes. It is annoyed by the moon, and accordingly it strives to push the moon away. Just as the moon, by its action on the earth, through the medium of the tides, tends to check the speed with which the earth is rotating on its axis, so the earth reacts on the moon, and compels the satellite to adopt a continuous retreat. The moon is therefore gradually receding. It is further from the earth to-day than it was yesterday, it will be further to morrow than it is to-day. The process is never reversed, it never even ceases. The consequence is a continuous growth in the size of the track which the moon describes around the earth. It is quite true that this growth is a slow one, so too the growth of the oak is imperceptible from day to day, though in the lapse of centuries the tree attains a magnificent stature The enlargement of the moon's orbit, though imperceptible from month to month or even from century to century, has revolutionized our system in the lapse of many millions of years.

"Looking back through the mists of time, we see the moon ever drawing nearer and nearer to the earth. Our satellite now revolves at a distance of 240,000 miles, but there was a time when that distance was no more than 200,000 miles. There was a time, millions of years ago, no doubt, when the moon was but 100,000 miles away, and as we look further and further back, we see the moon ever drawing closer and closer to the earth, until at last we discern the critical period in earth-moon history, when our globe was spinning round in a period of about five or six hours. The moon, instead of revolving where we now find it, was then actually close to the earth, earlier still it was in fact touching our globe, and the moon and the earth were revolving each around the other, like a foot ball and a tennis ball actually fastened together.

"It is impossible to resist taking one step further. We know that the earth was at that early period a soft molten mass of matter, spinning round rapidly. The speed seems to have been so great that a rupture took place, a portion of the molten matter broke away from the parent globe, and the fragments coalesced into a small globe. That the moon was thus born of our earth uncounted millions of years ago is the lesson which mathematics declares it learns from the murmur of the tides."

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A VISION.

On the wings of mystic vision,
My spirit took its flight
To an orb, whose course was wheeling
Round the great sun—sphere of light.

O! it seemed a glorious star-gem,
Shining in the nightly blue,
But its light of beauty vanished
In a nearer, closer view.

It was rugged, full of caverns,
Scant of what the eye could please,
Nor feathered songster raised its notes,
And stunted were the trees.

No human kind could live and breathe
For long, the noxious air,
But reptiles and a bestial race
Of forms uncouth were there.

In that place, so lone and weirdly,
Where vegetation pined
And vapours lay on hill and vale,
A deep gloom filled my mind;

Yes, bitterness more dread than death's
O'erwhelmed my being. Then
I groaned, "Is this the place of woe
For the souls of wicked men?"

"Is there no world, in space so vast,
With starry world's so spread,
Where there are those who worship God,
The universe who made?"

Roused from a trance so sad and strange,
My mind became serene,
My thoughts less morbid, truer, now,
Of the earth, than they had been.

In contrast with that visioned orb,
When distant, bright; how grand
This world, and fitted for man's needs
By a skilful, gracious hand!

Earth is the sphere that God has chosen
To be the battlefield
Where sin, and