

that having expended one million francs on the famous "pauper's funeral" given to the poet, that ought to suffice for his monument. His grandson "Georges," who has recently come into the enjoyment of the poet's millions, might give a bill for the balance needed. That would be a better investment than squandering the cash on *demi-mondaines* and purchasing old quarries. However, it is no secret that, from being a demi-god, Victor Hugo is estimated now only as an ordinary "Old Mortality."

As an idiot is regarded by some people as a blessing from heaven, so in past ages leprosy was viewed as a means to prepare for the salvation of the soul. Bruno, Archbishop of Toul, later Pope Leon IX., to show his humility, caused a leper who was running about the streets to occupy his bed. Robert I. and Saint Louis cared for leprosy patients. The disease spread the more rapidly because the people dwelt in wooden houses; their repast utensils were of wood, their clothing was wool—all calculated to propagate disease germs. Much salt food was eaten. When an individual became affected he had to separate from his family and reside in the huts or cabins specially erected in the open country. Lepers could return to a town only at certain epochs, and were allowed to touch nothing they desired to purchase, save with a stick. If on the highroad they observed any person coming, they were to stand aside and not come between the traveller and the wind. In order to be recognised at a distance lepers had to make a noise with rattles and to wear gloves made of white wool.

In towns there were hospitals, or *Lazareries*, and hence companionship. The unfortunates thus escaped the miseries depicted by Xavier de Maistre in his leprosy city of Aosta. In the time of Louis VIII. there were 2,000 lepers in France. Henri Martin, the historian, states that Robert Bruce died of leprosy. Vagrant beggars, in order to live in idleness and to be received into the hospitals, irritated their skin with certain herbs and drugs to qualify for admission. In the second half of the fifteenth century at Marseilles the leper plague was so terrible that any afflicted person who refused to leave the city was, by order of the municipality, to be burnt along with his house. At Nîmes, in 1487, lepers were admitted to a *Lazarerie* on paying a fixed sum, but were to bring bedding and furniture along with them. They had to swear obedience to the regulations; were neither to scold or fight; if they indulged in oaths they had to pay a fine to purchase oil for the church lamps. A tramp leper could only receive shelter for a day and a night; if for a longer period, that was decided by a vote of all the inmate lepers. All patients had to pay, and a rule was laid down that "none were admitted for the love of God."

M. Carnot's voyage to the South of France is a great personal success; everywhere he has been welcomed without a dissentient cry. This, at the same time, is the most solid tribute that can be paid to the stability of the constitution, and is worth yards of speeches and cartloads of pamphlets. Exemplary in his own personality M. Carnot never poses, and he seeks no other recompense than that the people will believe he is simply doing his duty uprightly as a matter of course, backed by a private life that shames French kings. The visit of the Italian fleet to salute President Carnot was full of tact, and cannot but lessen the friction between the two nations. Also, the launching of the *Magenta* took place with all religious ceremony; the navy chaplain officiated and the local bishop was at the side of the President. The constructor observed the antique ceremony of carrying a loaded pistol in his pocket to blow his brains out in case the launching failed.

The house where Napoleon was born, at Ajaccio, was duly honoured with a visit; it is situated in what would now be called an old lane. The Bonaparte family were only tenants of one of the two wings, and that wing has been specially whitewashed. A small garden serves as entrance to the dwelling; and sprigs of ivy, brought from Chiselhurst, commence to creep round the walls. The rooms are tiled, cold and poor; that wherein Napoleon was born, with its chair-bed, is still unchanged. It contains the busts of the Great Bonaparte and the Prince Imperial—the first and the last of the Napoleons. In the special visitors' register, kept for rulers and princes, M. Carnot's signature follows that of the ex-Empress Eugenie. The cloth covering an old piano has been morselled away by visitors for relics. Many of the Corsican mayors came forty miles to welcome M. Carnot, clad in their Sunday clothes—goat and sheep skins.

M. Eiffel promised to his workmen that on the completion of the Tower those who had most distinguished themselves would have their names recorded on the structure. He is now being requested to keep his promise.

What must one believe? M. A. Legoyt, connected with the Statistical Department, has published in his work on "Suicides," that Madame Rowland, who worked so much mischief in her day among the republicans, was not guillotined, but poisoned herself—in anticipation of dying on the scaffold—10th November, 1792, aged 39. Official proofs exist that she was guillotined 8th November, 1793.

Suffrance is not now the badge of the Jews; that has become the heritage of Christians, according to Drumont. The Jews control the financial world; they hold the press of Germany and France in the hollow of their hand, and can make it bless or curse with the unanimity of a clique. They are legislators, statesmen, barristers, professors, authors, actors, generals and admirals. Gentiles could not be more. The Jews are certainly not as "strict accountant of their beads"; are not so Rabbinical as hitherto. They do not all expect the Messiah to arrive through an open window, or to encounter Moses on the staircase. Saturday is rapidly becoming with them the same as any other day.

The best way to check the flowing tide is to create chairs in the colleges with Israelitish professors, to teach Christians how to become rich, even by working less than eight hours a day. Renan, as rector of the University of France, could deliver the inaugural address. Z.

SPRING.

Aye, this is a day for up-springing;
The flowers will rise to the round
Of the breezes that whisper the branches
Of their journeyings northern bound.
Yester-morn, how they fretted and stifled
O'er the waters of Mexican bay!
And will rest at the eve of the morrow,
With the white arctic foxes at play.
They skipped over flower-starred meadows,
And the daisies all nodded good-bye,
And gave them their perfume to sprinkle
The brown 'neath the northern sky.
And now they are coaxing the flowers
To spring from their dark winter beds,
And the lilies are lifting the blanket
Of leaves and upraising their heads;
Here are birds, too, the choir of nature
Is singing the anthem of life,
Not a voice inharmonious among them,
Not an echo of jarring or strife.
How blue seems yon lake! not the cold
Steely blue that the winter winds gave,
But the blue born of laughter and sunshine
Lightens up every breeze-kissing wave.
All nature is glad and rejoices—
Not the joy that the conqueror feels,
When his foemen lie mangled and bleeding,
And crushed 'neath his chariot-wheels.
No, the joy that belongs to the spring-time,
As one wanders where flowers grow wild,
And feels the soft kiss of the breezes
Is the joy of an innocent child.

ENOS J. NORRISH.

THE FATHER OF CANADIAN GEOLOGY.

IT is now forty-six years since the geological survey of Canada was founded. There was no flourish of trumpets at its inception. There was, in fact, a good deal of doubt expressed as to the utility of its establishment, and the then government of Canada only saw fit to endow it to the extent of £1,500. This was the sum set aside for the "Geological Examination of Canada." The Dominion Government of to-day gives the survey an annual allowance of one hundred thousand dollars and, in spite of several faults and shortcomings that have received public attention, the money is considered well spent. In the forty and more years of its existence the survey has done a vast body of work of incalculable service in assisting the progress and prosperity of the country and is now recognized as one of the most valuable departments under the control of the Dominion Government. Its most direct and material benefits have been conferred upon the mining and agricultural interests of the country. The magnitude of these benefits can be realized to some extent by anyone who takes the trouble to wade through a vast mass of official reports, but as the reading of blue books does not happen to be a popular pastime it is necessary that the history of such an undertaking as the geological survey should be presented to the general reader in a compact and attractive shape. This labour was successfully accomplished five years ago when Dr. Harrington published his "Life of Sir William Logan."

Sir William Logan was not only the father of Canadian geology, but he was in a very real sense the founder, and for many years, the chief sustainer of the geological survey. Apart from his personality, therefore, which was interesting in its breadth, its rugged strength, its humour and its kindness, his quiet and useful work has many claims upon that gratitude of his countrymen which can be expressed either by a lively remembrance of what he was and did or by a continuance of the spirit in which he worked. The only excuse this imperfect sketch can have is that any indication of the interest which surrounds the subject may tempt a reader here and there to a perusal of Dr. Harrington's volume.

William E. Logan was born in Montreal on April 20th, 1798. He received his elementary education there at the school of one Alexander Skakel, who is described as having been a classical scholar of no mean ability, but who also believed firmly in Solomon's theory with regard to the bad effects of a sparing use of the rod. Whether young Logan came in for a full share of the castigations or not, history doth not say. Three facts only remain with regard to his school-life in Montreal. 1. He made good headway with his studies. 2. He acquired renown for thrashing boys bigger than himself. 3. He retained in after years a warm affection for Skakel.

In 1814, when he was sixteen, he and his brother Hart were sent to Scotland to attend the High School at Edinburgh, then under the rectorship of Professor Pillans. Both lads proved to be good scholars, and William obtained the enviable position of dux in a class numbering two hundred. In 1816, at the close of his school career, he began to attend the classes in the University, but the practical bent of his character gave him a strong desire to "mix himself with action," and he chose a commercial career in London in preference to completing his University

course. He entered the counting house of a wealthy uncle in London and made such headway there that he was soon able to relieve his uncle from many of the responsibilities connected with the management of the business. He remained in London for ten years, but up to the close of his life there he had given no indication of any interest in geology. He devoted his spare time to reading and study—to French, Italian, Spanish and mathematics—but his letters do not indicate that he had given any particular attention to the subject of geology. The accident which led him to his life-work was a simple one. His uncle had become possessed of an eighth share in a copper-smelting company at Swansea, Wales. The affairs of the company needed straightening out and he was sent down to Swansea to represent his uncle's interests, at a salary of £1000 a year. His first work was to establish a good system of book-keeping, but when this was accomplished he entered upon a study of the economic principles connected with the art of smelting. A remark he made twenty years later, when questioned as to the usefulness of a geological survey, may be appropriately quoted here. He said that "economics lead to science and science leads to economics." In a very emphatic sense the economics of a Welsh copper smelting company led to science which had extensive bearings upon Canadian economics. The study of the principles involved in the economical smelting of copper led Logan to the science of geology. If, however, he had not displayed any enthusiasm on the subject up to this time, a sentence from a letter to his brother James has a good deal of significance.

"It has," he writes, "been arranged that I shall go down to Wales, where it is intended that the chief part of my duty shall be to attend to the accounts of the establishment; but you may be assured I shall spare no pains to make myself master of every branch of the business, and as it is of a scientific nature I am pretty sure I shall like it."

His general reading had probably embraced the works of the popular scientific writers of that day, but at any rate his first enthusiasm in the particular direction of geology seems to have begun at Swansea and when he had attained the age of thirty. Stratigraphical geology, too,—the branch of the subject in which he became most proficient—first attracted his attention. He sent to London for books and apparatus and set to work on a geological map of the district. His interest in the science increased daily, and in 1837 his work had attracted so much attention from the British geologists that he was elected a Fellow of the Geological Society. He alludes to this fact in the following words in another letter to his brother James:—

"You must know that I have become a bit of a geologist in late years and am now entitled to write after my name F. G. S. I take great interest in the science, and some day or other I may appear in print. The locality to which I have especially directed my attention is this immediate neighbourhood, of which, during leisure hours, I am gradually getting up a geological survey and sections. If ever I return to Canada again I shall geologize there."

In 1838 his uncle died, and for a couple of years Logan devoted himself to a study of the coal beds, having resigned his position in the copper-smelting company. His first discovery in studying the carboniferous epoch combined the useful with the scientific. It not only shed a clear flood of light upon a vexed scientific question, but proved to be of immense value to the practical coal-miner. Geologists had wrangled for years as to how the coal beds had been formed. They had agreed on one point. They knew that the coal was the result of vegetable deposits, but they differed as to whether the coal was formed always on the very place where the trees, shrubs and plants of which it was composed had grown or whether the beds were the result of a drift and accumulation of vegetable matter from a more extended area. Logan's discovery settled the question in favour of the first theory. He had closely examined the under clays which prevailed in the coal districts and had found this peculiarity, namely, that where a coal bed ended its underclay changed its character, whereas if the bed merely thinned out to reappear at a short distance the underclay preserved its character. In the latter case the underclay contained the roots of the principal tree composing the coal; in the former case those roots were absent. The logical conclusion was that coal had been formed *in situ* and subsequent investigation in other parts of the world confirmed the correctness of his discovery. Its practical bearing was this. When a coal seam thinned out the miner could tell at once whether he had come to a simple "fault" or to the last of the coal in that direction by merely examining the underclay. Logan's fame as a geologist was fully established when he read a paper on the subject before the Geological Society of London in 1840.

In the same year he was enabled to accomplish a long projected visit to Canada. He had left this country at the age of sixteen, but had ever retained a warm interest in his native land. While in London he was Vice-President of the Canada Club, and he always kept himself informed with regard to the public affairs of the colony. He spent a fortnight in Montreal, first seeing old friends and then, accompanied by his brother James, in making a study of the geological formations of the city. After a visit to Maine and Nova Scotia he again returned to Montreal, spending the winter there in a study of the phenomena connected with the annual freezing over of the St. Lawrence. As usual his "science led to economics." His investigations proved to be of immense service to Mr. George Stephenson and Mr. Thomas Keefer when deciding upon the site for the Victoria Bridge.