

collection of books, the society were affiliated with the proposed Frazer Institute, and its collection of Natural History thrown open to the citizens under suitable provisions for its protection and maintenance.

Besides promoting science by lectures, papers, and discussions, the society has more than once despatched its scientific curator on collecting expeditions, which have yielded good results both to its museum and to science. During the present summer this gentleman will have the aid of the Government steamers for dredging the deep portion of the Gulf of the St. Lawrence, and for making observations on the food of those fish which constitute a portion of our national wealth.

The *Canadian Naturalist* is the quarterly journal of the society, which contains the summaries of its scientific labours, and also many popular expositions of the scientific questions of the day.

Its annual conversations are an agreeable feature in our winter festivities, when the resources of science and art are all brought into requisition. On the last occasions the special subject illustrated was "Canadian Antiquities," which brought out for exhibition many interesting collections of Indian and Canadian dresses, coins, &c., in the possession of private individuals, some of which were generously added to the society's collection. But the "Annual Field Meeting" is the May day of the year—though it seems to fall about the first week in June. The charm of a day in the country when the leaves are green and not dusty, when the sky is clear and the birds are singing, is always a tempting prospect, but when, in addition, our company is select and orderly, our arrangements all comfortably made beforehand for us, bright eyes and young hearts sharing our pleasures, and intellectual discourses super-added, the wonder is, that, in a sensible city like Montreal, a train or a steamboat can be procured large enough to carry the whole party who desire to go. In this respect these trips are a great contrast to similar gatherings in the States, where from three to five hundred people rush to the train or the boat, and all "fraternize" or "lionize." Here the parties group themselves in a very quiet way, speak only to their own acquaintances and are—so genteel! But whether they sail in holiday attire to the classic and beautiful Isle of St. Helen, and roam round its lovely wooded shore—listening to its classic history and gathering its rich stores of wild flowers, shells and fish. Or, as on another occasion they are whirled out, under a dubious sky and chilly wind, suggesting waterproofs and umbrellas and "things that won't spoil"—and trip over the cruel stones (best friend of the boot-maker) to that marvellous Cenotaph of Nature, Point St. Claire—or wander to the old Fort de Bierre—or roam amongst the streams and wild flowers and mossy shades of Isle Perrot, returning laden with its flora and laughing at "showers"—or whether they "go farther" and instead of "faring worse" are fairly astonished at the ample forest, the glistening glades, the wooded lake and the fairy tale of the modern pilgrimage which drew so many thousands of willing feet in times past, to hang upon the words of Monseigneur Forbin Jansen, Bishop of Nancy, in his great crusade of 1841, and to build on the summit of Belœil a cross—the stony face of which yet stands as the memorial of his eloquence, and from that wondrous old "pillar of the earth" gaze down with delighted awe upon the embosomed lakes, the cultivated plains and the silvery streams of the old sea bottom below. And at last reluctantly leaving the scene laden with treasures "of woods, of vales, and of the winged air," they return again in peace and safety. Or if as on the last occasion they visit the rural Manor House, where comfort, elegance, music and refreshment have so long ensconced themselves amid the mountain lakes and forests far above the busy din of man—yet, in each of all these glorious spots the geologist has found his boulders, the palaeontologist his fossils, the entomologist his insects, the conchologist his shells, the piscator his fish, and the microscopist his "legion," and probably "the lad his lass."

All returned refreshed, invigorated by real intercourse with Grand Mother Nature, and many say, before the day is over, when will the next excursion be held. And their less fortunate friends on hearing their story exclaim "I wish I had been there!"

And why should these delightful gatherings be annual only, and not monthly during the summer? Because so few are really interested in the work, and because so many accept it only as a passing pleasure; because so few attend the regular meetings of the society and by its aid prepare themselves for its "field days." What "drill" is to the review, so are the regular meetings of the society to its excursions; and let us hope that one of the results of the "Ladies' Educational Association," which is commenced under such favourable auspices, will be to increase the ranks of the associate members of this society, and to render more numerous on the occasion of these excursions the competition for the prize which the society offers for the "best collection of plants in flower gathered during the excursion and properly named." We notice that in the award of such prizes by the Field Clubs in England 60, 80 and 100 species are frequently presented and named, and probably in these Canadian localities we have less lack of flowers than of botanists to ensure a like result.

Our artist has in the sketch chosen the moment when Dr. T. Sterry Hunt is addressing the motley group on the geology of the district. He is supported by Principal Dawson, the President of the Society, and Mr. Whiteaves, the Secretary,

Prof. Selwyn, of the Geological Survey, Prof. Darcy, Prof. Baker Edwards, Prof. Bell, Mr. Marler, and other leading members of the society. The scene is close to the hospitable mansion of Madame Bruneau, who kindly threw open her house, grounds and boats for the accommodation of the party. An envious peacock strutted before the philosophers and seemed disposed to dispute the rights of the intruders to trespass on his domain. The gathering of clouds and the distant voice of thunder in the woods, excited doubts and fears, and led to a somewhat more hasty retreat than was consistent with the dignity of so select a party. But all passed off without accident or serious discomfort, and left many wishing that such pleasures could be more frequently enjoyed, and feeling grateful to the society which had initiated them. The following summary of the principal speeches delivered on the reassembling of the excursionists is taken from the *Herald's* report:—

Dr. Hunt explained that the dark-coloured Crystalline trap of the Montarville hills, like that of the Montreal Mountain, was an eruptive rock, which had cooled under pressure and thus did not exhibit either the porous or the vitreous character of volcanic rocks, which had cooled at the surface. He also gave an interesting description of the mineral constituents of the trap, and of the different varieties of similar rocks. The name "trap" was of Swedish origin, and had reference to the stair-like appearance which hills of this rock presented.

Dr. Dawson also gave a short address in explanation of the geological specimens which had been collected. He held in his hand a fossil shell, embedded in hard rock from one of the layers of the horizontal strata which underlies the country all around, and through which the trap rock of the mountain has forced itself when in a molten condition. But on the top of all that we now see, there must have been piled at least twenty thousand feet of mud-rocks, which have all been removed by denudation. We know this from various facts, one of which was the small portions of rocks of a higher series, which he had discovered imprisoned in a similar trap on St. Helen's Island. After much of this denudation had taken place, and in comparatively recent geological times, the whole of the surrounding country had been covered by a prolongation of the Gulf of St. Lawrence, and these hills as well as our own mountain and many others, formed islands of greater or less extent.

OUR CANADIAN PORTRAIT GALLERY.

No. 78.—HON. CHARLES FOX BENNETT.

PREMIER OF NEWFOUNDLAND.

The Hon. Chas. Bennett has been more than sixty years engaged in the trade and fisheries of Newfoundland. He has been one of the most enterprising men of the colony, and was the first to embark in mining adventures. In his earlier days he took an active part in politics as member of the Legislative and Executive Councils, from which he retired on the introduction of Responsible Government.

When the subject of Confederation came to be considered, he took the lead in opposing the measure, considering that the interests of his adopted country would be severely prejudiced if it were carried. That question was submitted to the constituencies at a general election in 1869—twenty Anti and nine Confederate members were returned—one Anti-Confederate having been returned for two constituencies, thereby leaving a vacancy for St. John's West, which was subsequently filled by an Anti-Confederate.

Mr. Bennett was chosen as leader of the Government, and in that capacity procured the enactment of many measures of great and vital interest to the welfare and prosperity of the colony. Taking office after a season of great depression, with the colony deeply in debt, and the fishermen in a miserable state of poverty, was sufficient to tax the energies of the most experienced and skilful politician. He, however, proved equal to the occasion, and in less than one year paid off a large floating debt, reduced the taxes £14,000, which reduction has been further increased £6,000 the present year; expended liberally for public works and improvements, and left a large balance in the public chest.

Although far past the allotted age of man, he still possesses the elasticity of movement for which he was distinguished in his earlier days, and his mind retains the vigour of youth, matured by the experience of many years. If love of country and arduous service in its cause entitle a man to be considered a patriot, then Mr. Bennett should richly enjoy that distinction. He has expended his substance liberally for the benefit of Newfoundland, and now, at a time of life when most persons would retire and enjoy the fruits of their labour, he continues in harness, and performs the duties of Premier without deriving any emolument for his services.

No. 79.—HON. T. R. BENNETT.

SPEAKER, LEGISLATIVE ASSEMBLY, N. F.

Mr. T. R. Bennett, Speaker of the House of Assembly of Newfoundland, is a Nova Scotian by birth, and is about forty years of age. For some years he has conducted a considerable business in Fortune Bay, on the western coast of the Island. He has been twice returned to represent that district in the general assembly. At the last election he advocated Anti-Confederate principles, and was returned without opposition. He was subsequently elected Speaker by the Anti members, who were twenty-one against nine Confederate. The Speaker appears to have made himself thoroughly acquainted with Parliamentary usage, and he performs the duties of his position to the satisfaction of both sides of the House, uniting, as he does, great firmness with a kind and obliging disposition. He is an able debater, possesses great fluency of speech and elegance of language, and appears to be zealous to promote the interests of Newfoundland.

CRACKED SOVEREIGNS.

It has probably fallen to the lot of many readers to have come into possession occasionally of gold or silver coins which were hollow, or cracked on their edges, and therefore not sonorous when tested by the well known "ringing" process. Speculations as to the source of the imperfection are numerous, and various theories have been advanced and discussed in regard to it.

Perhaps one of the most prevailing notions as to the origin of cracked sovereigns and cracked coins of other denominations, is, that all pieces of money fabricated at the British mint are, in the first place, made in halves, the heads and the tails being afterwards paired and united by cementing, soldering, hydraulic pressure, or some other means. This operation being in some cases imperfectly performed (as it is argued), a partial or complete divorce may afterwards take place, and hence the phenomena of cracked moneys.

Another supposition is, that the hollow coins have been tampered with by gamblers for their own nefarious purposes. Neither of these theories, however ingenious they may be, is the correct one. The evil really arises in the way we shall attempt to describe. All the legitimate metallic money of this country is made from bars of gold, silver, or bronze. At the Royal mint there are orthodox sizes for these bars, so as to produce each variety of coin in use outside its walls. Those for sovereigns are twenty-six inches long, one and a half inches wide, and one inch thick; and, for the purpose of facilitating explanation, let us confine our attention to gold only.

Such bars are cast in vertical moulds of iron, which latter are fitted together in halves, so as to allow the giant nuggets to be realized easily from within them. On filling a mould from the crucible of molten metal held over its mouth, the resulting bar cools rapidly. Those parts of the bar which touch the sides of the mould cool first, and more gradually the centre is reduced in temperature. As the sides of the bar harden at once, they cling, as it were, to the walls of the mould, whilst the metal in the middle contracts in cooling, and subsides down the mould. The upper end of a bar of gold resembles much at this juncture the mercurial column in a barometer when the "glass" is said to be "falling." It is hollow or depressed in the middle, and sometimes very much so, the depression occasionally extending to one inch.

The lower end of the bar is perfectly squared, because the base of the mould is square. When removed from its iron case, the bar is carried to the rolling mill for lamination. It is passed again and again between the rollers, until attenuated into a strap or ribbon, but that which was its upper end is still defective. The rollers have simply compressed the precious metal, and therefore left the hollow end a mere crevice or thin line in the middle of the strap. This end is considered as scrap, and first cut off by a pair of shears, it is returned to the melting pot. It happens, sometimes, nevertheless, that a sufficient portion of imperfect ribbon is not cut away, the crack thus extending beyond the amputating point. When this occurs, it creates the evil of "cracked sovereigns." The ribbon is removed to the punching press, and perforated from end to end by a punch of the exact size of a sovereign. Some of the disks of metal thus produced may be cut from the bad end of the strip of gold. To detect these criminals, if they exist, a small staff of boys is employed. They are each armed with a bright-faced anvil block of cast iron, and they ring every individual disk in very rapid succession on the anvil. The sound and perfect pieces give forth harmonious music, whilst the others are dumb dogs, and have no music in their souls. The defaulters are, or should be, all picked out, and condemned to the "fiery furnace" once more. Boys are not infallible, and they have permitted "dummies" to escape now and then. These pass forward to be stamped at the presses, milled on their edges, and issued to the public, by whom they are criticised, and justly condemned. The hollowness of their characters is only detected, it may be, after some contact and friction with their neighbours, just as speciousness in the human character is only found out by the application of the tests of adversity and trouble. With the care at present exercised at the mint, hollow coins cannot escape detection.—*English Paper.*

COMFORT FOR TEA DRINKERS.

In the life of most persons a period arrives when the stomach no longer digests enough of the ordinary elements of food to make up for the natural daily waste of bodily substances. The size and weight of the body, therefore, begins to diminish more or less perceptibly. At this time tea comes in as a medicine to arrest the waste, to keep the body from falling away too fast, and thus to enable the energetic powers of digestion still to supply as much as is needed to repair the wear and tear of the solid tissues. No wonder, therefore, that tea should be a favourite, on the one hand with the poor, whose supply of substantial food is scanty, and on the other with the aged and infirm, especially of the feeble sex, whose powers of digestion and whose bodily substances have together begun to fail. Nor is it surprising that the aged female, who has barely enough of weekly income to buy what are called the common necessities of life, should yet spend a portion for her ounce of tea. She can live as well on less common food, when she takes her tea along with it; she feels lighter, at the same time more cheerful and fitter for her work, because of this indulgence.

WELLINGTON STREET BRIDGE, MONTREAL.

A subject of much interest to the commercial community of Montreal has been the extension of the Grand Trunk Railway to the lower harbour. The new bridge erected across the canal close by the old Wellington Street Bridge, of which we give an illustration on our front page, is a proof that the work is being rapidly carried out. This is, we trust, but a prelude to the connection of the Grand Trunk with the North Shore Road—when finished—and, for the present, it will afford, during the summer months, greatly increased facilities to shippers.

An Indian reports a "big thing on ice" at the mouth of the Amnicon river, some thirteen miles below Superior, in the shape of several huge icebergs almost literally covered with herring and other lake fish frozen to them. One of these immense mountains is twenty-five feet high and some forty feet through.—*Et.*

That is small compared to the size of the story.