

cumbent mass of so great a depth of solid rock, and the great engines and works on the surface. It had been levelled several times, but the same effect always returned, and so the endeavour to secure a flat floor had been abandoned, and a heavy coating of hard brick had been laid upon it.

Then feeling the necessity of keeping our courage up, our repeated signals receiving no response from the engineer above, we talked about the shaft. This immense boring of seventeen hundred feet, we learned was bricked double throughout, just as we line a well, in a most thorough manner, in order to prevent any danger of falling rock, and at certain intervals it was strengthened by strong joists of the finest culled pine. There is also a great deal of water broken into by a colliery shaft, that is, the small percolations that ramify the solid earth at all depths are interfered with, and it needs a pretty solid wall of brick to bear the constant action of the streams which, though they may be infinitesimally small, exert a never-ceasing pressure against it until they have worn for themselves passages to other outlets. The cost of such a shaft then is necessarily enormous, being from \$50,000 to \$400,000, a sum sufficient to give one a key to the immense outlay required before a coal mine can be said even to have commenced work. But now, the welcome signal from above was heard, down came the cage, and after a few minutes we found ourselves once more on "bonk" and in the light of the glorious sun, having been in the mine nearly four hours, and in that time having traversed seven or eight miles of "cutting."

S. A. CURZON.

THE GIANT SUN.

Look toward the south any clear night during the winter months, and you will see, low down, a star which will immediately arrest your attention, not only by its superior brightness, but also by its constant change of colour at one moment red, at another green, at another white. This is Sirius, the famous Dog-star of the ancients, the most brilliant star in the heavens, and the largest known orb in the universe. It is difficult to conceive that this beautiful star is a globe much larger than our sun; yet it is a fact that Sirius is a sun many times more mighty than our own. That splendid star, which even in our most powerful telescopes appears as a mere point of light, is in reality a globe emitting so enormous a quantity of light and heat, that were it to take the place of our sun, every creature on this earth would be consumed by its burning rays.

Sirius shining with a far greater lustre than any other star, it was natural that astronomers should have regarded this as being the nearest of all the "fixed" stars; but recent investigation on the distances of the stars has shown that the nearest to us is the Alpha Centauri, a star belonging to the southern latitudes, though it is probable that Sirius is about fourth on the list in order of distance. For though there are about fifteen or twenty stars whose distances have been conjectured, the astronomer knows that all of them, save three or four, lie at distances too great to be measured by any instruments we have at present. Astronomers agree in fixing the distance of the nearest star at twenty-two million of millions of miles; and it is certain that the distance of Sirius is more than three and less than six times that of Alpha Centauri, most likely about five times; so that we are probably not far from the truth if we set the distance of Sirius at about a hundred million of millions of miles! What a vast distance is this which separates us from that bright star; words and figures of themselves fail to convey to our minds any adequate idea of its true character.

To take a common example of illustrating such enormous distances; it is calculated that the ball from an Armstrong hundred-pounder quits the gun with a speed of about four hundred yards per second; now if this velocity could be kept up, it would require no fewer than ten million years before the ball could reach Sirius! Again, take the swiftest form of velocity of which we have any knowledge, light, which travels at the rate of nearly two hundred thousand miles per second, or about twenty million miles a minute, yet the distance of Sirius is so vast that it takes nearly twenty years for its light to reach us; so that if Sirius was suddenly to become extinct, we should not be acquainted with the fact till twenty years hence.

Bright as the Dog-star appears to the naked eye, in the telescope it appears as a mere point of light; and even in the largest telescopes constructed, though its light is greatly increased, a definite disc or outline, as is seen in the planets, is quite undiscernible; for if the power of a telescope was sufficient to "raise a disc" on the star, it would be almost impossible to distinguish it, owing to its great brilliancy; for as Sir William Herschel tells us, when Sirius was about to enter the field of view of his forty-feet reflector, the light resembled that which announces the approach of sunrise; and when the star was in the field of view "it appeared in all the splendour of the rising sun, so that it was impossible to behold it without pain to the eye."

Now, if astronomers could measure the disc of Sirius, they could from that determine its distance and measure its dimensions; but as no outline is appreciable, they resort to comparing the light received from this star with that which we receive from the sun, and by this means they are able to form some conclusion as to its probable size. After the most careful comparison of the light of Sirius, the sun and other stars, astronomers agree in fixing the volume of Sirius as exceeding our sun nearly five thousand times, and its diameter as exceeding our sun's seventeen times, so that the diameter of this giant orb is probably no less than over fourteen millions of miles!—*Chambers's Journal*.



g Major-General Laurie M.P., and Mr. Dickey, M.P., arrived at Ottawa on the 19th ult.

Mr. J. H. Desrosier has been re-elected by acclamation one of the councillors of Lachine.

Major Steele, of the North-West Mounted Police, and Mrs. Steele have been visiting Montreal.

Sir Adolphe Caron entertained the members of the Press Gallery, Ottawa, at dinner on Saturday, the 22nd ult.

Dr. T. Wesley Mills gave a very interesting lecture on "Foods" before the Natural History Society on Friday evening, the 20th ult. Sir W. Dawson presided.

Dr. Montague has been elected to fill the vacancy in the House of Commons caused by the unseating of Mr. Colter, by a considerable majority over the latter gentleman.

The Rev. W. S. Barnes delivered a most instructive lecture on the 20th ult. on "Robert Browning's Theory and Poems of Art." It was one of the Art Association course.

Lieut.-Col. Prior, M.P., recently presented a petition from Typographical Union No. 201, Victoria, B.C. A labour petition was also presented by Mr. Scarth, M.P., from D.A. 204, Knights of Labour, Winnipeg.

Mr. R. Leigh Gregor read a carefully prepared and extremely interesting paper on Pamphile LeMay, the Canadian poet and translator of Longfellow's "Evangeline," at the last meeting of the Societies of Literature and History of this city.

Mrs. Walker, late of Kingston, Ont., has been appointed matron of an English school at Cocanda, Madras Presidency, India, in place of Mrs. Folsom, aunt of Mrs. Grover Cleveland, who after nine years' service returns to the United States on a visit.

Mr. S. E. Dawson's series of articles in the *Week* on the Minority in Quebec has excited much interest throughout the Dominion, and has been favourably commented on by the press, though some of the Ontario journals decline to accept his conclusions.

Prof. Lawson has received expressions of sympathy from many friends throughout the Dominion on the bereavement that befell him in the loss of his wife. Prof. Lawson is no less esteemed and honoured for his worth in private life than for his great services to the cause of science.

The judges of fruit at the Fruit Growers' Convention, Ottawa, were Mr. O. B. Headman, of the Massachusetts Horticultural Society, and Mr. E. D. Willard, of the Western (N.Y.) Horticultural Association. These gentlemen expressed surprise and admiration at the magnificent display of pears from British Columbia.

Rev. Joseph Philp, pastor of the Methodist church, has the honour of being the first Canadian, in a class of 800, to complete the B. D. courses of the Chautauqua University. On the completion of the required B. A. work of a western college he has also received the arts degree. Mr. Philp has been offered work in the Boston Correspondence School of N. T. Greek.

Gounod, the composer, though he lives a very retired life, is generally glad to meet with young musical aspirants, for whom, if deserving, he always has a word of encouragement. To Miss Nita Carritte, of St. John, N.B., who had the honour not long since of singing before him, the great master was pleased to say that she had a great future before her. Miss Carritte has for some time been pursuing her musical studies in Paris.

Dr. H. G. Tillman, a graduate of the Royal Military College, Kingston, has received the temporary appointment of resident medical officer of the Kingston (Jamaica) General Hospital of 450 beds, pending his appointment by the Government to the control of a district of the island at a salary of \$1,200 per annum, in addition to what remuneration he may obtain from private practice. His official duties consist in looking after the district hospital and convalescent.

On the evening of the 20th ult., the Hon. Charles H. and Mrs. Tupper entertained at dinner the following ladies and gentlemen:—Hon. Senator and Mrs. Howland, Hon. Senator and Miss Sullivan, Mr. McNeil, M.P., Mr. McKeen, M.P., Mr. Daly, M.P., Col. Lay, U.S. consul, and Miss Lay, Mr. and Mrs. A. J. Christie, Mr. J. Stewart Tupper, Mr. and Mrs. J. M. Courtney, Mr. and Mrs. C. C. Chapman, Mr. and Mrs. Joseph Pope and Mr. and Mrs. Berkeley Powell.

Prof. D. P. Penhallow, who occupies the chair of Botany in McGill University, has been elected president of the Dominion Fruit Growers' Association. The vice-presidents are Prof. Saunders, of the Central Farm, and Messrs. B. Shirley, of the Fruit Growers' Association of Nova Scotia, A. M. Smith, president of the Ontario Fruit Growers' Association, and A. McD. Allen, of Goderich. The finance committee is composed of Messrs. L. Wolverton, C. R. H. Starr and H. N. Dunlop.

At a dinner given on the evening of the 14th inst. by the Hon. G. W. Allan, Speaker of the Senate, the following persons were invited:—Hon. Senators Boulton, Clemow, Dever, Flint, Grant, Kaulbach, Loughheed, MacDonald (B.C.), McMullen, McKay, McInnes, McCallum, Merner,

Prouse, Poirier, Pacquet, Sutherland, Stevens, Vidal, Wark, Glasier, Montgomery, MacFarlane, Lewin, D. McMillan, Casgrain, Donohoe, DeBoucherville and Sullivan, Sir Hector Langevin and Hon. G. E. Foster.

Early in the present month M. S. J. Labelle, Assistant Commissioner of Agriculture, Quebec, delivered an address on French immigration to Canada before the Alliance Française, of Paris. The Count Colonna Ceccaldi presided. M. Foncin, secretary of the society, in introducing Mgr. Labelle, spoke highly in praise of his labours in the cause of colonization. M. Salone, professor of history, who recently visited Canada, gave an interesting sketch of the progress of French Canada under English rule.

The Ottawa *Journal* thus welcomes to the capital an esteemed and able contributor to the columns of the DOMINION ILLUSTRATED:—"Mr. Thos. O'Hagan, M.A., Ph.D., who has recently come to reside in Ottawa, is delivering a course of lectures on 'Elocution' at the University of Ottawa. Dr. O'Hagan has also become connected with the editorial staff of *United Canada*, and is well known as a powerful writer. He has won golden opinions from many eminent men of letters, amongst whom are Oliver Wendell Holmes, Boston; Hon. G. W. Ross, Minister of Education; Rev. J. J. Carbery, late Bishop of Hamilton, and J. G. Bourinot, LL.D., House of Commons." We wish Dr. O'Hagan success in his new rôle and home.

Mr. George E. Drummond, senior member of the firm of Drummond, McCall & Company, of this city, was married on the 20th ult. to Miss Lillie Foster Cockshutt. The ceremony, which took place at the Cedars, Brantford, the residence of Mr. Ignatius Cockshutt, was performed by the Very Rev. Dr. Carmichael, Dean of Montreal. The groomsmen were Messrs. T. J. Drummond and W. J. White, of this city. The bridesmaids were Miss Nettie R. Cockshutt, sister of the bride, and Miss Minnie McIntosh, of Minneapolis, in dresses of cream India silk trimmed with brocade silk and ribbons. Miss Helen and Alice Cockshutt and Miss Jessie Kippax, nieces of the bride, acted as maids of honour. The ushers were Messrs. Ed. and Henry Cockshutt. Mr. and Mrs. Drummond, after a trip in the States, will start on the 8th inst. for an extended tour in Europe.

LOVE AND FATE.

The deepening of Disaster's night
Increased the brightness of her face,
As shines the moon with clearer light
The darker grows her dwelling-place;
But soon the fading rose revealed
That tears were flowing in the dark:
What Love was not allowed to mark
Was not from Solitude concealed.
Disasters never singly come;
Together Want and Sickness roam;
Affliction and Misfortune are
From one another never far.
Of patient wife and fretful child
The famished looks drove manhood wild;
With madness marked he, day by day,
Weakness increasing to decay,
Bred by the pining, wistful mood
Of prattlers craving toys and food.
Dusk after dusk deplored the perished
Prospects dawn after dawn had cherished.
The cheering voice and helping hand
Let hound and warrior to withstand,
Till in Disaster's darkest hour
Death made Despair's dreary bower:
The darling of her dwelling-place
She clasps not in caressing arms,
Nor dreams of the developed charms
Promised by his unfolding grace:
He left her heart an empty room
Where Love deplores departed bloom:
In dreams beyond the rueful sea
A dream that makes mortality,
Cliffs lashing here, there leaving sand,
She clasps him on the golden strand.

Temple Building.

B. C. MACLEAN.

A REVERIE IN DICKENS.

(DEATH OF LITTLE NELL.)

I read by the dying sunlight
That tale of life so brief,
On the calm, pale deathly beauty
I gazed with the old man's grief,
And the child-form lay before me
Like a gem from the mint of God,
Asleep; as a flower awaiteth
The Spring 'neath the harden'd sod,
And methought that in silence there liveth
A sorrow too sad for tears,
And a grave in each heart that groweth
More green with the passing years.
A grave in our life's dark chamber,
Where Love like Ophelia sings,
Where the worldly footsteps fall not
Nor the shadow of earthly things.

Montreal.

JOHN ARBORY.