

water, like tiny crystal boats with crescent sails of pink and blue and red and silvery white? They are the nautilus, or what mariners usually call the Portuguese sailor, a kind of mollusc rejoicing in the waters of the gulf-stream, now between seventy and eighty degrees.

But look! There is something new; bunches and then large patches of seaweed, a cinnamon colour in the distance, but close at hand a rich orange. It is the Gulfweed, or more correctly speaking the Gargasso. We expect to pass through meadows of it miles in length, in which Columbus' affrighted sailors believed that they would be bound fast forever. We wish we could handle it and see, but onward we scud past it as a worthless thing. With amazing swiftness the day runs on, and already the sun has left the world, falling like a balloon of fire into the sea. Now the crescent moon is in the heavens, and a highway of shining silver athwart the waves, and on her right hand stands Orion, that beautiful and ancient figure that 4,000 years ago charmed the eye of the patriarch Job far off in the land of Uz; that old Homer knew and spoke of when describing Vulcan's richly-ornamented shield; that has a wealth of stellar systems that no other constellation can approach, and hidden riches and glories that make it to the initiated the very California of the heavens. A little to the south-east is Sirius, always the most brilliant star in the firmament, but to-night of marvellous magnificence. His magnitude is great; his luminosity intense; his scintillations are flashes of red and blue. Long-maligned beauty! the dreaded dog-star of the ancients, whose strong faith in his baleful influence still lingers in the pages of Zadkiel and on the lips of those that talk of dogdays.

But right behind us in the northern sky is a constellation that has a grandeur all its own, the Ursa Major, Great Bear Charles' Wain or the Plough, surely familiar objects to every eye. Glorious Orion sinks to rest and all the host of heaven disappears, and we may seek them and find them not, but here, in every season of the year, in every night, at every hour, the eye can see the vigilant sentinel on his ceaseless round guarding "the sole star that never bathes in the ocean waves," and guides across the trackless waste with a faithfulness that never falters nor fails the mariner that to-day, like the mariners three thousand years ago and more, trustfully accepts his leading.

But the whole heavens are telling! The great dome of the deepest blue is without cloud or vapour, speck or stain; the milky way, like a soft scarf of glistening white thickly strewn with brilliants, stretches from rim to rim; a myriad globes of fire flash out their lights of blue and green and orange and red; glittering clusters and wreaths and embroideries hang out in gorgeous profusion, and saints and heroes and immortal gods in spangling vesture, move in a galaxy of glory; while ever and anon dart out of the vast infinitude and disappear as soon as seen the winged messengers of light from the Great Original and Omnipotent Ruler. Voices that syllable no earthly language fall upon the ear, and the soul comprehends what the tongue cannot tell:—

Now will we to our couch, although to rest
Is almost wronging such a night as this.

(To be continued.)

SKETCHES OF TRAVEL IN EUROPE.

BY REV. E. WALLACE WAITS, D. SC., OF KNOX CHURCH,
OWEN SOUND.

FROM EDINBURGH TO DUNDEE, ABERDEEN, GLASGOW, PAISLEY—THE LOVELY KYLES OF BUTE—A SABBATH IN THE HIGHLANDS—THE PRINCESS OF WALES AND HER TWO DAUGHTERS—REMINISCENCES OF SCOTTISH CHARACTER.

We left Edinburgh for Aberdeen in the early autumn. At the Waverley Station there was an immense crowd to see the Princess of Wales and her two daughters, who were expected to pass through *en route* for Balmoral. The wheels of their private carriage having heated, it was put off at Berwick, and the royal party were delayed there until the morning express arrived, which brought them on to Edinburgh at half-past nine a.m. This was our train for the north, and we had the privilege and (I may say) honour of travelling in a compartment next the palace car. On arriving at the Forth Bridge the train slowed up to give the Princess an opportunity of inspecting this magnificent structure, it being the first time she had crossed since it was opened. "It's an ill win' that she naeboddy ony guid," and the slight mishap to the royal carriage gave us our first glimpse of the Princess of Wales, and also a splendid view of the Forth Bridge, of which we had heard so much. At present there are two great rival lines of traffic between England and the north of Scotland, the one on the western side of the island, the other on the eastern. The western companies enjoy the benefit of a continuous iron road all through the island from south to north. In the case of the eastern companies the continuity is broken by the intrusion of the great estuaries of the Forth and the Tay.

Undoubtedly this placed these companies at an enormous disadvantage, and their desire to abolish the Firths by bridging them over was both natural and reasonable. Formerly they could carry on through traffic only by obtaining "running powers" over the lines of their rivals, an arrangement which did not permit that free play of competition between independent companies by which the public benefits.

But now this gigantic undertaking is an accomplished fact after a period of eight years in construction, and at a cost of two million sterling.

THE FORTH BRIDGE.

"As a Grenadier Guardsman is to a new-born infant, so is the Forth Bridge to the largest railway bridge yet built in the world." That is the graphic comparison by which Mr. Benjamin Baker, C.E., illustrated the extraordinary character of the structure which was opened for traffic in May, 1890. What is it that gives the Forth Bridge this pre-eminence? It is certainly not its length. In that respect it is far excelled by the Victoria Bridge at Montreal and also by the unfortunate Tay Bridge, the ruins of which we beheld as we steamed into Dundee, over a splendid new bridge which has been constructed as its substitute. The Victoria Bridge is 10,380 feet long, or within 180 feet of two miles. The Tay Bridge is 10,612 feet long, or fifty-two feet over two miles. The length of the Forth Bridge is only 8,091 feet, or 2,289 feet less than the Victoria Bridge, and 2,521 less than the Tay Bridge. The striking and unprecedented feature in the Forth Bridge is the length of its greatest spans. The two longest spans of the Britannia Bridge, over Menai Straits, measure 465 feet each. The Forth Bridge has two spans of 1,710 feet each, which is not far short of being four times as great. This is a fair comparison, because the Britannia and the Forth Bridge are both fixed or stable bridges. Other bridges exist which have longer spans than the Britannia can boast of, but they are suspension bridges, and are therefore swinging and unstable. The Niagara Suspension Bridge has a single span of 820 feet. The central span of the Brooklyn Bridge, at New York, measures 1,600 feet, which is the nearest approach to the giant strides of the Forth Bridge. The novel and marvellous feature of this bridge, designed by Messrs. Fowler and Baker, is the adoption on an unprecedented scale of cantilevers—those skeleton-like structures which, resting on a broad base, stretch out their huge, bracket-like arms over the deep water. It must be remembered, however, that the cantilever principle is applied only to that part of the bridge which crosses the two broad deep-water channels. The approach viaducts, on both sides of the estuary, are girded bridges of the ordinary type, and presenting no very striking feature, if we except the great height of the piers, and the fact that the girders are made, not of iron, but entirely of rolled Siemens' steel. Any doubt as to its capacity to resist any conceivable wind pressure should be set at rest by the assurance of Mr. Baker that even a force of 448 pounds on the square foot would not destroy the bridge. As the Board of Trade demanded a resisting power of fifty-six pounds to the square foot, the new Forth Bridge is not likely to share the fate of that over the Tay.

BONNIE DUNDEE.

On our way north we spent a short time in Dundee. The weather was wet most of the time, hence we did not receive a very favourable impression of the city. Dundee is the chief seat of the linen manufacture in Britain. Side by side with the extension of the linen trade has been that of the jute spinning and weaving. Large cargoes of this material are imported into Dundee direct from India, and it is manipulated on an enormous scale. In fact the manufacture of flax, hemp and jute fabrics constitutes the staple trade of the town and supports, directly or indirectly, the great bulk of the inhabitants. The most notable of the antiquities of Dundee is the "old steeple" (dating from the fourteenth century), 156 feet high, which has been recently restored, under the direction of Sir G. Gilbert Scott, R.A., at a cost of \$35,000. The east port, the sole relic of the ancient walls, is allowed to stand in commemoration of George Wishart, the martyr, who, according to tradition, preached from it during the plague in 1544. Dundee has always been associated in our mind with Rev. Robert Murray McCheyne and his work in St. Peter's Church. We saw the church, and "beside which his body lies interred." Standing by his tomb our thoughts went back to those days of revival in St. Peter's; and we remembered McCheyne's solemn words to his flock, as recorded in his memoir: "Dearly-beloved and longed-for, I now begin another year of my ministry among you; and I am resolved if God give me health and strength, that I will not let a man, woman or child among you alone until you have at least heard the testimony of God concerning His Son, either to your condemnation or salvation. And I will pray, as I have done before, that if the Lord will indeed give us a great outpouring of His Spirit, He will do it in such a way that it will be evident to the weakest child among you that it is the Lord's work, and not man's. I think I may say to you, as Rutherford said to his people: 'Your heaven would be two heavens to me.' And if the Lord be pleased to give me a crown from among you, I do here promise in His sight that I will cast it at His feet, saying: 'Worthy is the Lamb that was slain! Blessing and honour and glory and power be unto Him that sitteth upon the throne, and to the Lamb for ever and ever.'"

Dundee is well supplied with recreation grounds. The Baxter Park, thirty-five acres in extent, was presented by Sir David Baxter to the community in 1863; the pavilion contains a marble statue of the donor by Sir John Steell, erected by public subscription. The Balgay Park, a picturesque wooded hill commanding fine prospects on either side, was opened to the public in 1871. Besides these there are the Magdalen Green, the Barrack Park, the Bleaching Green and Dundee Law. A magnificent promenade along the river side between Magdalen Point and the Craig Pier has lately

been opened. We visited the Free Library, the public building and schools, all of which are excellent. The old burying-ground, now closed, contains many interesting monuments and epitaphs. Three spacious suburban burying-grounds have taken its place—the Western Cemetery, the Eastern Necropolis and the Balgay Cemetery.

We left Dundee for Aberdeen on Saturday, spending Sunday in the Granite City, where we hoped to hear the Rev. George Adam Smith, of Queen's Cross Free Church. However, to our great disappointment, he was from home. His decision to remain in Aberdeen is hailed with great delight by the citizens. When Mr. Smith was considering the call from Free St. Georges, Edinburgh, two letters were addressed to him, urging him to remain in Aberdeen; one by the office-bearers of Queen's Cross Free Church, and signed by every elder and deacon, and the other by the young men of the congregation and students of the Aberdeen University, etc., who are in the habit of attending Queen's Cross either regularly or occasionally. The latter was got up in a few days, and despite the fact that the University Christmas vacation was begun, it was signed by over 280 young men, a great many of these being students. Mr. Smith's two volumes on Isaiah are a valuable contribution to biblical exposition. "If you have the first volume, complete the book by buying the second; and if you have not the first, read the second and you will buy the first."

Of eminent men connected with Aberdeen, New and Old, may be mentioned John Barbour, the first poet of Scotland, who lived in the year A.D. 1300; Hector Boece or Boethius, Bishop Elphinston, the Earls Marischal, George Jamesone, the famous portrait painter; Edward Rabau, the first printer of Aberdeen, 1622; Rev. Andrew Cant, the Covenanter; David Anderson (Davie do a' thing), a mechanic; James Gregory, inventor of the reflecting telescope; Dr. Thomas Reid, the metaphysician; Dr. George Campbell, principal of Marischal College, author of several important works, and best known by his "Philosophy of Rhetoric" and many others. Aberdeen University sends up a goodly number of students to Cambridge, who usually enter for the "Mathematical Tripos," and many succeed in carrying off wranglerships. The most notable name in the present day connected with Aberdeen halls of learning is that of Professor Robertson Smith, who was, a few years ago, taken from the Free Church Divinity College to Cambridge to be professor of Oriental Languages.

(To be continued.)

HIGHER RELIGIOUS INSTRUCTION.

MR. EDITOR,—Permit me to say, in answer to many anxious enquirers, that the diplomas obtained at the last examination under the scheme of Higher Religious Instruction are in the hands of a penman for engrossing with the names of the successful candidates; a small sub-committee is engaged in selecting the prize books, and the medals have been ordered from the makers in Edinburgh. I hope to have all in the post office by September 1. As all the work of mailing, etc., falls upon me, and I have my regular work besides, I shall have to crave the indulgence of my young friends. I thoroughly sympathize with them and will lose no time in forwarding diplomas, etc., to their respective ministers. At the same time I would strongly recommend that the presentation of these to the successful scholars be made one of the features of "children's day" services (September 27). The committee has in preparation a suitable order of service for that day and will send it gratis, in any number required, to those schools which will engage to take up a collection in connection with its use and send to the Convener either the whole or a reasonable portion of it, say from one to ten dollars according to the ability of the school. A promise to make a donation at the apportionment of school monies at New Year will be accepted as an equivalent. We hope to distribute fifteen or twenty thousand copies in this way.

T. F. FOTHERINGHAM,
Convener Sabbath School Committee.

FROM STRENGTH TO STRENGTH.

It is not necessary to attempt to fix the exact circumstances under which these words (Psalm lxxxiv.) were written. The Psalter in its spiritual fulness belongs to no special time; and this Psalm is the hymn of the divine life in all ages. It brings before us the grace and the glory of sacrifice, of service, of progress, where God alone, the Lord of Hosts, is the source and the strength and the end of effort. It is true now, and it is true always, that the voice of faith repeats, as in old time, through loneliness, through labour, through sorrow, its unchanging strain from strength to strength. A Northumbrian saint, it is said, carried up into heaven in a trance heard the same thanksgiving rendered by a choir of angels before the throne of God. It must be so.

The Lord God is a sun to illuminate, and a shield to protect. In the pilgrimage of worship that which is personal becomes social. The trust of the believer passes into the trust of the Church. The expectation of one is fulfilled in the joy of all. If the travellers grow weary on their way it is that they may find unexpected refreshment; if they faint, it is that they may feel the new power which re-quickens them. They go from strength to strength; every one of them appeareth before God in Zion.—Canon Westcott.