

ries of discoveries, and may be traced back to the people of these happy climes, where the serenity of the air invited them to observe the rising and setting of the stars, when they plunge themselves in the sun's rays, or when they again disengage themselves from his light; where agriculture required that the seasons should be distinguished, and their returns exactly known. What an immense field of nature is to be traversed when setting out from the first view which the heavens present to us, ere we arrive at that boundless prospect, by which, at the present day, we contemplate the past and future state of the system of the world. To arrive at this it was necessary to observe the heavenly bodies during a long succession of ages, to recognize from their appearances the actual motion of the earth, to develop the laws of the planetary motions, and from these laws to derive the principles of universal gravitations, and to descend from this principle to the complete investigation of all the celestial phenomena, even in their minutest details. This is what the human mind has accomplished in Astronomy. Its annals are the records of the triumphs of human genius.

The cradle of the human race, was, beyond dispute, the southern portion of Asia—a delightful climate, where the first inhabitants of the earth lived and multiplied. Chaldea and India had attained a high degree of civilization long before the Greeks and Romans had begun to emerge from a state of barbarism; but we know very little of the attainments in science which these nations had reached. We are equally ignorant of the progress which mathematical science and physical enquiry had made in China—not one of the treatises on Mathematics, Arithmetic and Astronomy in the Chinese language, having been, I believe, translated into any of the languages of Europe. It was from Egypt that the Greeks drew the first rudiments of their mathematical and physical science; and the scientific acquisitions of that singular people constitute everything that we know respecting the progress which the ancients had made in the investigation of the heavenly bodies. From the genial climate of the early inhabitants of the east, where a gathering cloud but seldom swept athwart the blue canopy of their skies, and the nature of the life which they led, it was but natural to expect that the magnificent spectacle of the heavens would speedily attract their attention. We are certain that the Chaldeans made Astronomical observations at least as early as the 719th and 720th years before the Christian era; for Ptolemy makes use of three observations of the eclipses of the moon, which took place during these years, and which he found in their records. Diogenes Laertius informs us that the Egyptians had preserved in their annals on account of 373 eclipses of the sun, and 832 of the moon, which had happened before the arrival of Alexander the Great in their country. Now these eclipses required between 1209 and 1300 years to happen. Alexander's visit to Egypt took place in the year 331 B. C. If we add this number to the length of time during which the Egyptians continued to observe the eclipses of the sun and moon, we obtain 1631 years B. C. for the period of which the Egyptians began to record their observations. This period is rather more than a century after the death of Moses, and is about 24 years before the institution of the Olympic games; constituting but a very small part of the 48,563 years during which they boasted that they had been engaged in making astronomical observations. But this was obviously a fable, invented for the purpose of raising themselves in the opinion of the Macedonian conqueror.

What further progress the Egyptians and Chaldeans had made in astronomy, I have had no means of discovering, but their notions respecting the length of the solar year, and the mean length of a lunation, must have been a near approximation to the truth. This is evident from the famous Chaldean period called Saros. It consisted of 223 lunations, or lunar months, or, according to Dr. Halley 18 years, 11 days, 7 hours, and 4 1/3 minutes, at the end of which period the sun and moon were in the same situation with respect to each other as when it began. This period includes a certain number of eclipses of each luminary, which are repeated every Saros in the same order, though not altogether with the same degree of obscuration. There is abundant evidence to prove that this period was not deduced by them from any tradition, or from lost records, but inferred from the observation of the most palpable phenomena. It appears that the practical astronomy of these early nations was confined to the observations of eclipses, the rising and setting of the principal stars, with their occultations by the moon and planets.

I shall explain to you, in their proper places, the terms made use of in Astronomy. The path of the sun was followed by means of the stars which were eclipsed by the twilight, and perhaps by the variations in the meridian shadow of the gnomon. For that the Chaldeans must have possessed some knowledge of gnomonics is evident from the division they made of the day into 12 hours and the construction of gnomons or sun dials to point out the hour. The sun dial of Ahaz, you are aware, is mentioned in the Old Testament, on the occasion of the recovery of Hezekiah; but nothing is said about its construction.

The motion of the planets was determined by the stars which they came nearest to in

their course. To distinguish these bodies and recognize their various motions, the heaven was divided into constellations, and that zone from which the sun, moon and planets were never seen to deviate, was called the zodiac, a term derived from a Greek word signifying animals, because the constellations composing it are represented under the figures of animals.

That the principal planets were discovered names assigned them, and their motions noticed at a very early period is evident. Homer, B. C. 900, and Hesiod 800, were already acquainted with Venus; but considered the morning and evening stars as two different bodies. The former sublime poet in the description he has given of the shield of Achilles, shows plainly that the division of the heavenly bodies into constellations had taken place prior to his time. In one of the compartments of the shield in which the Divine artist had made the likeness of the heavens, he says:—

When first he formed the immense and solid field,
Rich, various artifice emblaz'd the shield:
Its outmost verge a threefold circle bound;
A silver chain suspends the nassy round;
Five ample plates the broad expanse compose,
And godlike labors on the surface rose.
There shone the image of the master mind—
There earth, there heaven, there ocean he designed:
The unwearied sun, the moon completely round;
The starry lights, that heaven's high convex crown'd;
The Pleiades, Hyads, with the Northern team.
And great Orion's more refulgent beam;
To which around the axle of the sky,
The Bear revolving, points his golden eye;
Still shines exalted on the ethereal plain,
Nor bathes his blazing forehead in the main,
Pope's Homer's Iliad, Book 18.

Democritus, B. C. 400, supposed that there were several planets. Pythagoras, B. C. 550, discovered the identity of the morning and evening stars, and in 4th year B. C. Eudoxus brought the knowledge of the motions of the five planets then known, from the Egyptians to the Greeks.

The stars appeared as so many luminous points fixed in the heavenly sphere, having the earth for a centre, and revolving on an axis having that earth for a centre in the space of 24 hours. All of the stars were found not to partake of this diurnal motion in the same degree; some were carried slowly to the East, and their paths, after a certain interval of time, returned upon themselves. The Astronomers of the Alexandrian school set themselves to ascertain the general laws of these motions. This could not well be done without a hypothesis; and the simplest was, that the planets move eastwards in circles, and at a uniform rate. It was soon found, however, that the motion to the eastward was not uniform. The planet began to move slower and slower, and at last became stationary. It then acquired a motion in a contrary direction, and, after proceeding for a certain time westwards, it became stationary, and then moved eastwards as at first. These motions were not easily reconciled with a uniform circular motion. This explanation, however, was attempted by Apollonius Pergæus, but with the same success that attended all the astronomical calculations or reasonings of the ancients, which proceeded by a wrong method to discover the laws of nature. Hereafter you will see that it was by following the rules laid down by Bacon for prosecuting the science by induction, that the labors of modern astronomers have been crowned with such brilliant success.

Thus far we may say of the history of astronomy that 'shadows, clouds and darkness rest upon it.' The real history of written astronomy, that is, of accurately recorded and moderately correct observations, in sufficient number to constitute a body of science, commences with Hipparchus, about 160 years before our era. Prior to this time we can do little more than speculate upon the few facts handed down to us. He conceived that in the circumference of a circle having the earth for its centre there moved the centre of another circle in the circumference of which the planet actually revolved. The first of these circles was called the Deferent, and the second the Epicycle; the motion in the circumference of each was supposed uniform. Lastly, it was conceived that the motion of the centre of the epicycle in the circumference of the deferent, and of the planet in the epicycle were in opposite directions, the first being towards the east, and the second towards the west.

Colonial.

NEW-BRUNSWICK.

Woodstock Times, Dec. 12.

Important Military Movements in the Madawaska.—We have just been informed by a gentleman from the upper part of the country, (as well as upon the authority of a letter from that quarter to a gentleman in this place) that a short time previous to his departure, a detachment of the 56th Regiment, consisting of 150 men, 1 Captain and 2 subalterns, under the command of Colonel Eden, had arrived at the Madawaska settlement, and taken up quarters about two miles below that river's mouth, where they are to be stationed for the present, no doubt to watch the movements and check the inroads our unruly neighbours

have been making into that part of the province. It is also stated that the detachment for some time past stationed at the Degele, or foot of the lake, has been reinforced from the same corps. We have it from very good authority, that this sudden and very judicious movement was brought about by overtures the Americans have been making to obtain possession and jurisdiction in that settlement—a representation of which was very promptly made by Sir John Harvey to his Excellency the Governor General, and who has as promptly and gallantly responded to the call in support of our claim and indefeasible right to the soil, and goes fully to prove the determination of Her Majesty's government to support and carry out that claim.

The Maine authorities have been playing a game in this part of the province, that is any thing but creditable to the "freest and most enlightened people on earth." Their spies and pedlars have been prowling about the country, endeavoring to poison the minds and lure from their allegiance the French population, who we are happy to learn, have had their eyes opened, not however, without generally getting pretty well fleeced before hand. Selectmen have been appointed, votes obtained, the census taken, and the district of Madawaska has actually been incorporated as a part and parcel of the valiant and warlike state of Maine.—'Tis true, our resident Magistrates and Warden of the territory have peaceably and frequently protested against these high handed proceedings and have as frequently been insulted for their pains, by the emissaries of the Lilliput State; but there is a point beyond which endurance cannot go, and at that point we have arrived, when *les braves Americains* will learn that these invasions of our country and our liberties will no longer be suffered with impunity.

St. John Observer, Dec. 15.

The British Queen, on her return to England, is to lay up for repairs till the 10th of March.—The 10th of each month is to be her regular sailing days next season, going and coming.

The Great Western left New-York for Bristol on Tuesday last. She also, it is stated, is to be laid up till Spring, and undergo repairs.

Brock's Monument.—We insert with much pleasure the following Resolutions, &c. passed at a Meeting of the General Committee for reconstructing Brock's Monument, held at Toronto, Upper Canada, on the 18th Nov.

The Resolutions adopted at a meeting of the Officers of the First Battalion St. John City, and First Battalion St. John County Militia, in October last, having been read,—

Moved by Col. Fitzgibbon, seconded by Chief Justice Robinson, and carried unanimously,—

Resolved, That this committee receives with the most lively gratification, a Report of the proceedings of Meetings assembled at St. John, New Brunswick, in the month of October last, for the furtherance of the reconstruction of the Monument to the memory of Major General Sir Isaac Brock: That the spirit displayed upon those occasions is as gratifying to the Members of this Committee, as it must be to every loyal subject in this Province, thus affording to the World an assurance that between the Britons of New Brunswick and Upper Canada, (Provinces which may be considered the outworks of the British dominions in North America, there will ever be found a generous emulation, and an unconquerable zeal and devotion, in the cause of their country, and in defence of the unity of the Empire.

The President submitted the following communication from the house of DeLisle, Janvier, and DeLisle, of London.

London, 19th Oct., 1840.

Sir,—We have the honor to inform you, that we have received instructions from John Savery Brock, Esq. of Guorasey, to place at the disposal of the Treasurer the sum of £50, as his subscription towards the restoration of the Monument of his illustrious brother, the late Major General Sir Isaac Brock; and we have accordingly to request that you will be good enough to inscribe his name for the same, and we will pay due honor to the Treasurer's Draft on us for it, upon your advice.

We have the honor to be, Sir,
Your obedient humble Servants,
DELISE, JANVERIN & DELISLE,
Sir Allan Macnab, Toronto.

NOVA SCOTIA.

Halifax Novascotian, Dec. 16.

Suicide.—An inquest was held on Saturday afternoon last, at the Military Hospital, on the body of David Black. It appeared that deceased had been master Tailor of the 64th Regt. had been tried by a Court Martial, for some irregularity, reduced from the rank of Corporal, and ordered to duty. This affected his mind, and he stated to a person on Friday that he would poison himself. This person took such steps, by giving information at the guard room, as he thought might prevent the desperate act. Deceased returned to informant's premises, asked for drink, and exhibited a paper which he said contained an ounce of arsenic. An en-

deavour was made, ineffectually, to get the paper from deceased,—a guard was sent for, and they found him chewing the poison. Notwithstanding entreaties and efforts, he swallowed the drug. Remedies were speedily applied, but the wretched man expired on Saturday morning. The Jury returned a verdict of *felo de se?*

Reform.—Last Herald informs us that on the first day of January next, the whole County of Guysborough is to be organized into a Temperance Society, under the patronage of the Right Rev. Bishop Frazer. New Year's day could scarcely be better occupied, than in laying the foundation of what may be the means of preventing great evil, and doing good to the present and succeeding generations. That a population must prosper, where temperance and general morality go hand in hand, is as sure as that there must be light when the sun is above the horizon.—We understand that Temperance societies, under the Patronage of Doctor Frazer, are to be formed in Halifax, by the Clergy of the R. C. Church. The fact is cause of sincere rejoicing to all who really desire the prosperity of the country, the happiness of their fellow-men and the furtherance of morals and religion, generally.

Ordination.—An ordination was held on Saturday last, by the Bishop of Nova Scotia. Mr. Wm. Elder was ordained a Deacon, and the Rev. W. M. Godfrey, A. B. Deacon, was admitted to the order of Priesthood.

Halifax Guardian, Dec. 16.

Three U. S. fishing Schooners, the Ocean, Director, and Alms, which were seized by the Provincial Revenue Cutters, in the summer of the present year, for encroaching upon our fishery, have been condemned by the Court of Vice Admiralty, under the Treaty of 1818.

H. Wright, Esq. son of the late H. Wright, Esq. of St. John, has been elevated from a Judgeship of a District Court in the Island of Ceylon, to be Treasurer and Commissioner of Stamps for that Colony. Mr Wright seems to have been very popular in his judicial capacity. On his removal from this District, an address expressing regret and congratulation was presented to him from the Chiefs, Priests, and others.

CANADA.

Montreal Gazette.

British and Foreign Bible Society.—We have received a copy of the 36th report of the British and Foreign Bible Society for 1840, which contains a great deal of matter of deep interest to the christian and the philosopher. The labour and perseverance of the members of this noble Society are beyond all praise. Throughout Europe, Asia, Africa, and America their influence extends—wherever human beings exist, there their labours of love are to be seen. By the table of contents we perceive there are reports from Batavia, Belgium, Bombay, Calcutta, Canada, Cape Town, Ceylon, China, Colombia, Denmark, Esquimaux, France, Germany, Greece, Holland, India, Ireland, Jaffa, Madagascar, Madras, Malacca, Malta, Mauritius, Mongolia, Newfoundland, New South Wales, Norway, Penang, Portugal, Prussia, Rarotonga, Russia, Scotland, Sierre Leone, Singapore, Smyrna, South Sea Islands, Spain, Sweden, Switzerland, Syria, Tunis, Turkey, Van Dieman's Land, and the West Indies.—The Society has promoted the translation, printing and distribution of the Holy Scriptures, in whole or in part, in 136 different languages, or dialects. Eighteen new translations are at present in operation, chiefly East India dialects. The total of issues since its commencement in 1804 is, 4,771,004 bibles and 7551,477 testaments, and the total of its expenditure is £2,640,160 13s. 4d. commencing with £619, 10s. 2d. for its first year, ending with £110,175, 8s. 5, for its thirty sixth. Between the 31st March, 1839, and the 31st March, 1840, there appears to have been granted to the Montreal Branch of the Society, 4450 English bibles, 3700 do. testaments, 300 do. with psalms, 41 Gaelic bibles, 420 French do. and 180 do. testaments.

Quebec Mercury.

We are gratified in being able to state that the result of the appeal to the proprietors of Retail Stores in this City, by the young men employed therein as Clerks, has been eminently successful, and that the closing of the shops at half-past seven o'clock during the ensuing winter will commence on Monday evening next.

Montreal Paper.

The Great Western Steam Ship Company have determined to put the Archimedes screw into their immense floating palace now building, which will register nearly 3000 tons, and be propelled with engines of 1000 horse power. This is by far the largest steamship ever attempted, and being entirely of iron and having the screw instead of the