

THE GLEANER.

And Northumberland, Kent, Gloucester, and Restigouche Schediasma.

Volume XII:1

Nec araneorum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes.

Number 1.

Miramichi, Tuesday Morning, September 15, 1840.

Jewelry, &c.

The Subscriber begs leave to return his sincere thanks for the very liberal patronage he has received since his commencement in business, and hopes by strict attention and punctuality to merit a continuance of the same.

He takes this opportunity of informing his friends and the public in general that he has opened a Splendid Assortment of Articles in the FANCY LINE; among which are GOLD RINGS, BROACHES, SEALS, KEYS, Plated Branch and other CANDLESTICKS, Cnet Stands, and Toast Racks, SILVER WATCH GUARDS, Ladies' Work Boxes, and Writing Desks, SILVER BUTTER KNIVES, Officer's Swords and Belts, and a variety of other Articles, which he offers for Sale at unusually low prices.

C. J. WOLHAUPTER,
Clock & Watch Maker, opposite Messrs.
J. Cunard & Co.'s Store.
Chatham, June 9, 1840.
N. B. The highest price given for old Gold and Silver.

New Dry Goods and Grocery Store.

The Subscribers have opened the new Store No. 3, in the Commercial Building, in Chatham, and beg leave to inform the public, that they have on hand, a

Large Assortment of DRY GOODS, HARDWARE, GLASSWARE, CROCKERYWARE, Carpenters' and Joiners' Tools, &c.; and a well selected Stock of GROCERIES; which they offer for Sale, cheap for cash, or approved credit.

HALLY & MACKENZIE.
Chatham, June 2, 1840.

The Subscriber

Has just received his FALL SUPPLY of British Manufactured GOODS,

Consisting of—Broadcloths, Buckskins, Pilot Cloths, Blankets, Flannels, Homespuns, Prints, plain & figured Merinoes; with a great variety of FANCY GOODS, and made-up FURS; which with his former Stock, will be sold at low prices for Cash.

N. B. The highest price will be given or all descriptions of FURS.

—In Store—
Bohea, Congo, and Soachong TEAS; Madeira, Sherry, and Port WINES; Champagne; and superior Buffalo Robes.

J. SAMUEL.
Chatham, 10th December, 1839.

A Consignment

Daily expected by the Subscribers, and will be Sold low for Cash or approved credit:

10 Hhds. SUGAR,
10 Puncheons MOLASSES,
4 Tierces do.

—Also on Hand—

Quebec Fine FLOUR,
A few Hhds. London Porter & Ale,
30 to 40 Chests good Black TEA,
PORK,
Hhds. Gin and Brandy,
LOAF SUGAR,
Boxes Pipes, 12 gross each,
Cheshire CHEESE,
30 Dozen London PORTER.

JOHNSTON & CAIE.
Chatham, 20th July 1840.

Goods! Goods!

CHEAP and CHOICE.

The Subscribers beg respectfully to announce to their many customers, and the public generally, that they have just received by the Barques Hinds, from Greenock; Sir John Harvey, from Liverpool; and Brig Queen, from London:

A Large and very Elegant Spring Supply of all kinds of GOODS,

purchased during the past winter by Mr. Johnston, at the cheapest markets, and selected of the choicest and handsomest descriptions. These, together with a large and general Supply of West India and This Country PRODUCE,

are being exposed for Sale at their Fancy Shop opposite the Royal Hotel; and Grocery Store, adjoining the Office of Street & Kerr, in Chatham, at hitherto unequalled low prices, by Wholesale and Retail.

JOHNSTON & CAIE.
Chatham, June 1, 1840.

To Let.

The HOUSE in Queen Street, at present occupied by Mr. Bardick: possession on the 1st August next. Apply to
WILLIAM CARMAN, janr.
Chatham, July 14.

THE GLEANER.

From the Liverpool Mercury.
MR. ESPY'S LECTURES.

Mr. Espy delivered his third lecture in the Music-hall on Wednesday week. The subject was the application of his theory to the explanation of the phenomena of storms, and it was as ably handled as those chosen for the two preceding lectures. After a short recapitulation he proceeded to give an account of a great storm which took place in the United States on the 26th of January, 1839, as illustrating the manner in which storms in general are formed, and also their progressive motion. The storm extended nearly north and south, and was 600 miles in length. In the western part of the States, when it first was observed, the wind blew violently from the east and south-east. As the storm travelled eastward a dead calm followed it. This calm occupied the centre of the storm, and when it had moved eastward there followed a violent storm from the opposite points of the compass, namely, from the west and north-west. At the northern boundary of the storm the wind blew from the north, but Mr. Espy stated that he had received no information as to how it blew at the south point, although he had no doubt it blew from the south. The storm was of an oblong form. In the centre it was calm and without hail or rain, whilst along the eastern side it rained violently, and on the western side hail fell. It passed off into the Atlantic, and was observed at sea. Mr. Espy said he had sent letters all over the States, and had received sixty-four accounts, from which his information had been derived. This storm afforded distinct proof of the wind blowing from all points toward a central line of the calm, which marked the place where the great ascending current was going on. And it proved the progressive motion eastward of this ascending current with the cloud above it, and the consequent progressive motion of the storm itself. The eastward motion was caused by the great upper atmospheric current flowing from the equator to the pole.

The next subject discussed was the circular storms of the West Indies. In these the wind blows from the circumference towards the centre, and they generally progress first westward, then northwards, and then to the north-east, and become oblong. The observations were made on an extensive scale by ships accidentally placed in these storms, and their logs all bore testimony to the fact stated. Mr. Espy alluded to Colonel Reid's work with respect, but he differed from the author as to theory. Colonel Reid finding it calm outside and inside these circular storms could see no other way of explaining the phenomena, except by supposing a circular motion in the wind. Mr. Espy, however by laying down the direction of the winds as given by Colonel Reid, upon a chart, has proved that the currents were not circular but blew from the circumference to the centre.

He explained the rise of the barometer outside the storm, and the calm and heat experienced, by the circumstance of the enormous quantity of highly expanded air above, flowing out on all sides and compressing the strata below, making them by this means both warmer and denser, and thus raising both thermometer and barometer, while the downward current not being experienced, was in reality a calm.

The proofs of the correctness of Mr. Espy's theory are these. 1st. The formation of clouds at such an altitude as that the due point and temperature of that altitude are the same. This had been proved by actual experiment. 2d. The upward current during the formation of clouds, as proved by the upward motion of a kite under them, and its having been actually broken from its string by the current. 3d. The motion of the wind in storms having been ascertained to be from the circumference to the centre; and he mentioned as a fourth and very remarkable proof of the ascending current, that in America during the blossom season, if a storm occur, the pollen of the blossoms is carried from the trees and wheat fields by the ascending current, and is found in large quantity in the rain that afterwards falls. Another remarkable fact seen in India was mentioned in further confirmation. Sand has been seen to be carried upwards in columns towards a

cloud, and has fallen from the cloud, and the sand has been found frozen in it.

Mr. Espy next proceeded to apply the theory to other atmospheric phenomena. The formation of clouds had been already attempted to be explained, and the theory of Dr. Hutton was the one generally adopted, namely, that clouds were formed by the accidental mixture of different masses of air containing different quantities of moisture; this was shown to be incorrect, by the fact that if the most extreme case of this kind took place, the whole quantity of moisture deposited would be inadequate to form cloud; and besides, no mechanism was known by which such a mixture could be effected. The upward current, however, as explained at a preceding lecture, accounted for all the phenomena.

The formation of hail was also a subject of insurmountable difficulty. M. Pouillet had stated that it was in vain to attempt its explanation until the formation of clouds could be accounted for: and this having been done, the occurrence of hailstones was easily explained. A cloud was formed in the manner previously stated: rain drops were generated, but these could not reach the earth on account of the violence of the upward current: they were, on the contrary, carried to the altitude of perpetual coagulation, there frozen and thrown off at the sides of the hail cloud.

The theory of the tornado cloud or waterspout was also given. A cloud begins to form rapidly, and at first has a flat base; the upward current goes on increasing in violence from the rapid ascent of the cloud; the air forming the upward current being exposed to less pressure from this circumstance, expands and becomes colder,—and, as a consequence of this, its dew point, or the place where it begins to deposit its moisture and form cloud, is lower in the atmosphere than before. The base of the cloud is a little rounded by this; the process goes on more rapidly, the upward current increases in violence, and its rarefaction and coldness increases. The dew point falls lower and lower until the base of the cloud puts on a conical figure with its apex downwards, and it is gradually elongated till it touches the earth.

The cause of the cap which forms on some rain clouds was explained as follows. The rain cloud ascends rapidly in the atmosphere, carrying up with it the air above it; this air at last arrives at an elevation where it deposits its moisture like thin gauze, and this constitutes the cap.

The fourth lecture was devoted to the application of the theory to other atmospheric phenomena. One important part was the theory of the widening of storms. Storms generally begin small; those in the tropics especially; and the circle gradually enlarges as they proceed along the surface of the globe; the consequence of this is, that their intensity diminishes till they are finally dissipated. The cause of this beautiful phenomenon Mr. Espy stated to be as follows. When an upward current takes place, a cloud is formed which spreads out above, and occupies a greater diameter than the current itself; the same process of rarefaction takes place in this cloud, and an upward current of a wider diameter is formed, and so on till the storm swells out to many hundred miles in extent.

Mr. Espy also mentioned that since he had arrived in England, he had investigated to some extent the phenomena of the great storm of January, 1839, and that he found it to bear out his theory. Over Ireland and England the wind blew from the east and south-east on the 6th January; this was the eastern line of the storm. It travelled gradually eastward, and then came the western line, which was by far the most violent. The wind then blew south-west and west; and at one period, about two or three o'clock on the morning of the 7th, the wind on the west side of the island blew south-west, west, and north-west; on the north part it blew north-west and north; along the eastern north east east, and south-east; and at London south. In the centre parts there was a dead calm—showing the centre of the storm; while all around, the wind blew inwards, towards an oblong space, nearly the length of England.

At the conclusion of this lecture it was announced that Mr. Espy would deliver other four lectures on the same subject,—two at the rooms of the Shipmasters' Association; and two at the Royal Institution. They

consisted, for the most part, of repetitions of those previously delivered, except that at the concluding one an account was given of a singular method of producing artificial rain. Mr. Espy stated that he was led to the discovery by the ascertained fact, that during the formation of clouds there is a column of air rising upwards from the surface of the earth. It occurred to him that if this column could be produced by artificial means the formation of cloud would follow. In this opinion he was strengthened by the fact, that, during volcanic explosions, great battles, and conflagrations, clouds are formed and rain sometimes falls. After having stated his opinions at a lecture delivered in America, two gentlemen came forward and told him that while burning the woods on their estates they had observed clouds suddenly form in calm clear weather, and rain to descend in such quantity as to extinguish the fires. After this Mr. Espy made an application to the Legislature to enable him to perform experiments, but his application was rejected, and he was laughed at all over the United States. He then published his discovery, and it was eagerly taken up by the public, and the experiment has been often successfully made. Several accounts of these have been given, one of which Mr. Espy related as follows:—In one of the southern states there occurred a long and severe drought, which threatened the destruction of the crops. A planter, who had heard of the discovery, determined to make the experiment, and chose for that purpose a salt marsh on the west side of his estates. The marsh was covered with long dry grass fitted for combustion. In order to the success of the experiment, it is absolutely necessary that there should be drought, that the air should be perfectly still, and the sky clear. On the present occasion these requisites existed. The grass was set fire to and burned rapidly, and the result was carefully watched. In a short time a small cloud formed over head, which extended itself in all directions, particularly towards the east. The sight was described to have been of the most magnificent kind. Rain at last fell in torrents and saved the crops, and the rain extended over a considerable tract of country. The rationale of this singular phenomenon is, that the fire produced an upward current of air, and this arriving at such an elevation as to occasion deposition, cloud was formed; but according to the theory, when once cloud begins to form it must go on, for it is a self-sustaining process, and hence the spread of the cloud and the fall of rain.

In conclusion, it is our opinion that the theory broached by Mr. Espy deserves to be carefully investigated by the scientific men of this country. No explanation of atmospheric phenomena that has been previously given is at all satisfactory; but in this new theory we have a means of solving difficulties which we have not hitherto been able to cope with. The principal facts on which it rests have been observed in America; and a careful observation of the phenomena in this country can alone determine whether it is applicable here also. In the great storm of 1839 phenomena were observed which confirmed the truth of the theory in a remarkable manner; and we think there is much truth in a sentiment delivered by Mr. Rosson, at the conclusion of one Mr. Espy's lectures, that if this theory had been known in Liverpool at the time, the great loss of property and lives that took place during that calamity would have been avoided.

An enormous organ is now being erected in the abbey of St. Dennis. It contains about 6000 pipes, amongst which are some measuring 52 feet, and weighing 12,000lbs. This magnificent instrument is nearly completed.—London paper.—[The celebrated organ at Ulm, in Germany, stands 91 feet high. The largest pipe is 13 inches in diameter, and it has 16 pairs of bellows.]

The only musical instrument in Greenland is a drum, made from the bones and tongue of the whale.—Crantz's Greenland.

Art is that process by which we give to natural materials the highest excellence they are capable of receiving.

The declared value of British and Irish produce and manufactures exported to France, in 1839 was £229,830, an increase of nearly 200 per cent. compared with 1835, and of nearly 500 per cent. compared with 1830! The new commercial treaty with France will in all probability still further extend our very