

# THE GLEANER:

AND NORTHUMBERLAND, KENT, GLOUCESTER AND RESTIGOUCHE  
COMMERCIAL AND AGRICULTURAL JOURNAL.

OLD SERIES] *Nec aranearum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes.* [COMPRISED 13 VOLUMES.]

NEW SERIES VOL. IV.]

MIRAMICHI, SATURDAY MORNING, OCTOBER 11, 1845.

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## News from England.

### WILLMER AND SMITH'S European Times,

Which arrives by every steam ship at Halifax from Liverpool, comprises an English Newspaper,—a Shipping List,—and a General Price Current.

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The subscription to this Paper is 16s. per annum; and may be ordered of JAMES CAIE, Esquire, Postmaster, Chatham, Miramichi.

## NEW BRUNSWICK,

County of Westmorland, S.S.

[L.S.] To the Sheriff of the County of Westmorland, or to any Constable within said County: Greeting.

Whereas SAMUEL OULTON and THOMAS OULTON, Administrators of all and singular the Goods, Chattels, and Credits, which were of the late THOMAS OULTON, deceased, at the time of his death, exhibited and filed their account of the Administration of said Estate, and have prayed that the Next of Kin of said deceased, and all persons interested in the said Estate, may appear and attend the passing and allowing the said accounts; and also to the distribution of any surplus which may, on the final allowance of said accounts, remain in the hands of said Administrators; You are therefore required to cite the Next of Kin of said deceased, and all others interested in said Estate, and they are hereby cited to appear before me, at a Court of Probate to be held at my office in Dorchester, within and for said county, on TUESDAY the twenty first day of October next, at twelve of the clock, at noon, to attend the passing and allowing of the accounts of the said Administrators, and to the distribution of said surplus.

Given under my hand, and seal of the said Court, this eighteenth day of August, 1845.  
(Signed) E. B. CHANDLER,  
Sarrrogate Judge of Probates, county of Westmorland,  
(Signed) THOS. S. SAYRE, Register of Probates, county of Westmorland.

## Agricultural Journal.

From Hogg's Instructor.

### THE VEGETABLE KINGDOM.

It is now midsummer—the bright sun shines throughout, the long day diffusing light and heat over the face of nature—the earth is in its full luxuriance; and in the words of Milton, "it were an injury and sulleness against nature not to go forth and taste her beauties, and mingle in her rejoicings with heaven and earth."

What a change a few months has brought about! Lately, the earth was bound up in severe frosts of winter—not a leaf or a gay blossom was to be seen—all all was apparent barrenness and desolation. And so was the earth before it was first clothed with green herb—a bare, rocky, and barren mass. Vegetables are as it were the clothing of the earth; flowers, shrubs, and trees, its ornaments. There is a softness and appropriateness in the subdued tinge of green, which is with very few exceptions the prevailing livery of the earth—something which is pleasing and refreshing for the eye to look upon, without being too glaring or dazzling.

Vegetables, though they do not possess the structure and sensations of living animals, have yet a kind of life of which mere matter is altogether destitute. They form a link, and a most important one, between mineral substances, such as rocks and stones, and animated beings. But though they are thus endowed with a kind of vitality, yet, as to actual composition, they are, like all animals, not excepting man himself, literally formed out of the "dust of the earth."

A few simple substances, such as carbon, sulphur, phosphorus, potash, soda, lime magnesia, combined with three gaseous bodies, oxygen, nitrogen, and hydrogen, make up the whole of the matter of which plants are composed. Now, exactly the same substances combine to form the flesh and bones of animals; but as animals cannot extract and combine these substances directly from the air, water and soil, they have to depend either directly or indirectly on vegetables for their nourishment. No animal, even the simplest or most minute or insignificant, can live on inorganic matter. A great proportion of quadrupeds derive their sole support from grasses and green herbs, and many kinds of birds from grain and seeds; these become the prey of carnivorous animals, and afford them their sole means of subsistence. Fishes prey upon flies and insects, which either directly or indirectly derive their subsistence from the vegetable kingdom; and man, as well as some other animals, lives indiscriminately, both on animal and vegetable matter. We thus find that vegetables perform a most important office in creation. By their peculiar structure and functions, and under the laws of vital action, they assimilate air, water, and earthy salts, and form out of them the matters called gluten, starch, sugar, and oils, which become the food of animals.

It is to the operations of vegetables, too, that we owe a considerable proportion of the soil which covers the earth. If we examine the rocks and stones around us, we shall find their surfaces covered with circular patches of grey and yellowish lichens. These are simple plants, the minute seeds of which, wafted by the winds, fall on the rocks and adhere to them by means of a glutinous matter on the lower sides of the seed. Attracting moisture from the air, they germinate, increase, and then moulder to decay. Their remains, mingling with the mouldering rocks beneath, in time accumulate a certain depth of soil, which still goes on increasing till at last it becomes a deep bed fit for receiving and nourishing other species of plants that may be driven towards it by the agency of the winds, of birds, of other means which nature employs for the diffusion of vegetables. In this manner have our deepest and most fertile soils derived their origin. We find also vast accumulations of decayed plants making

up peat mosses—and vegetables of a still more remote growth treasured up in the bowels of the earth in the form of that most valuable mineral, coal.

In common language, we speak of plants as living, as growing or increasing, and as fading and dying. Now, this is strictly correct. A plant is an organised structure, having numerous minute cells and porous tubes through which a sap or juice flows, and by which all the functions are performed, tending to increase, preserve or multiply the species. It is possessed of what has been called irritability, which in many respects resembles some of the motions of animals, as is exemplified in the shrinking of the sensitive plant when touched by the hand, the movements of the leaves of plants towards the light, and the twining of their tendrils round other neighbouring substances for support. But plants have not sensation. They do not feel like animals, nor exhibit any traces of consciousness. In short, they possess only that lowest form of vitality which has been called organic life.

Plants vary greatly in their structure, but the generality have roots, stems, branches, leaves, blossoms, and receptacles for the maturation of their seeds. Pervading the roots and stem, there are a series of minute hollow tubes and spiral vessels through which the sap passes upwards from the earth, and, mounting to the leaves, there combines with the gases of the atmosphere, and thus becomes converted into nutritious juice, which again descends, and is distributed throughout every part of the plant for its growth and nourishment. The outer bark of the plant consists of a thin membrane, somewhat like the skin of animals, and serves a similar purpose, to protect the parts beneath from the air and from external injury; serving also for the exhalation and absorption of moisture through its numerous pores. Immediately under the skin is a soft pulpy structure, consisting of innumerable cells, and which is of a green colour in almost all vegetables. Of this kind of structure, too, the leaves of plants are composed. Under this cellular substance, we find in woody plants the true bark or *liber*, composed of numerous fibres running in a longitudinal direction, and having the appearance, when slightly macerated, of a fine net-work. In this portion of the bark the peculiar virtues of plants—principally are found; such as gums, resins, essential oils, as cinnamon, peppermint, turpentine, and the astringent tannin of the oak. The wood is found immediately under this, circle within circle, extending to the pith, which is situated in the centre. The outer circle of wood next the bark is softer and juicier than those in the centre, being the newest; and as a circle is formed each year, the number in a traverse section, near the root, will commonly denote the age of the tree, at least all those trees of temperate regions. Throughout the woody fibres, but especially the outer circles, there are numerous tubes and cells, generally six-sided, through which sap and air freely flow. The leaves of plants are most important appendages, and may be compared to the lungs of animals. Plants will not live if deprived of their leaves, or if they have not free access to the sun and air. During the day, and in sunshine, the leaves of plants continually absorb the carbonic acid and nitrogen gases of the atmosphere, which enter into union with their juices, while oxygen gas is as constantly exhaled. In the darkness of night this process ceases, and a portion of the carbonic acid of their juices is thrown off. Now, this daily action of plants is just the reverse of the breathing process of animals—the latter consume the oxygen of the atmosphere, and give out carbonic acid, so that in process of time the air we breathe would become vitiated, were its oxygen not continually renewed by the operations of the vegetable kingdom. Here then we perceive another providential adjustment; not only do plants contribute food for animals but they are also the great regenerators of the atmosphere, the purity of which is equally subservient to animal existence.

But there remains another feature of plants to be noticed—the flowers or blossoms, those variously tinted portions which add such beauty and splendour to the face of nature. We cannot in the summer season turn our eyes in any direction, where we do not find the trees, hedges, and fields, loaded with gorgeous ornaments, from which proceeds also a mingled odour of delightful sweets. Even the meanest weed beneath our feet shows its little white star, or yellow, red, or variously spotted gem of blossom. Nature is not only bountiful in bestowing the useful and necessary, but profuse in pouring forth beauties to please and gratify the senses. Nature, however, is not profuse in vain—each of those brilliant cups and curiously tinted fibrils has its decided use; and all the parts combine to carry out the great conservative plans of creation. Like animals, plants are possessed of organs necessary to accomplish the purpose of nature—the reproduction and continuation of the species. From remote antiquity, the importance of the organs of the flower in perfecting the seed was known; and although Linnaeus did not wholly make this discovery, yet it is to him we owe its complete elucidation about the year 1730. If we take a common wild rose, we may readily perceive the several parts of this structure. The green kurb attached to the flower stem is the *ovary*, where the seeds are matured. Above this is a green cup or *calyx*, notched into segments, and which serves to support the parts of the flower above. The flesh-coloured leaves form the *corolla*, an undivided body in some plants, but in this, as in many others, divided into numerous *petals*; this corolla, which is generally the showiest part of all flowers, serves as a protection and defence of the parts within. These consist of the *pistil* or female flower in the centre, and of the *stamens* or male flowers arranged around the circumference. The stamens carry on their tops an oblong loosely attached body, which is the *anther*, containing the *pollen* or fertilizing dust, which in due time bursts and scatters its contents on the *stigma* of the pistil. In some plants, the blossom contains only the pistils or female flowers, while the stamens grow on other plants, or on separate twigs of the same plant. In such instances, the pollen is borne along by the agency of the wind, or of the bee or other insects, roaming from flower to flower in search of food.

Such is a rapid glance of the arrangements of nature in even the lowliest plants. From the simple moss or lichen up to the tall cedar or the splendid magnolia, there are of course, many diversities of this structure—but all are on one uniform plan, and every plant produces its "seed after its kind." What a field here for the exercise of the attention, and for exciting pleasing and wonderful thoughts of that Being "who in wisdom has contrived the whole!" When the celebrated traveller, Mungo Park, found himself alone in the barren wilds of Africa, robbed, maltreated, and then deserted by cruel and savage rubbers, he sat for some time gazing around him with amazement and terror at his utter abandonment. "Whichever way I turned," he touchingly relates, "nothing appeared but danger and difficulty. I saw myself in a vast wilderness, and five hundred miles from any European settlement. At this moment, painful as my reflections were, the extraordinary beauty of a small moss in fructification irresistibly caught my eye. Can that Being, thought I, who planted, watered, and brought to perfection in this obscure part of the world a thing which appears of so small importance, look with unconcern upon the situation of creatures formed after his own image? Surely not! Reflections like these would not allow me to despair. I started up, and, disregarding both hunger and fatigue, travelled forwards, assured that relief was at hand—and I was not disappointed."

It was an old opinion, and one which is not quite eradicated even at this day, that the earth, when dug up in any place, will spontaneously produce plants without seed. Nothing, however, can be