

The Chairman of the Committee of Migration, mentioned in our last, informs us that the work is progressing rapidly. Already about 500 observers, exclusive of keepers of lights, have been secured. The U. S. Light House Board and the Marine and Fisheries Department of Canada have kindly distributed for the committee circulars and blank schedules to more than 1000 stations. Sets have also been sent to Newfoundland. Reports of observation have already commenced to come in.

Botanical Department.

Conducted by Prof. A. H. McKay.

AMONG THE CRYPTOGRAMS.

NO. IV.

SOME USES OF LICHENS.

"The living stains, which Nature's hand alone,
Profuse of life, pours forth upon the stone;
For ever growing, where the common eye
Can but the bare and rocky bed descrie,
There science loves to trace her tribes minute,
The juiceless foliage and the tasteless fruit,
There she perceives them round the surface
creep,
And while they meet their due distinctions
keep,
Mixed, but not blended, each its name retains,
And these are Nature's ever-during stains."

—Crabbe.

The lichens of Nova Scotia are not yet fully known. Over one hundred species have been found in Pictou County alone; and it is quite probable that many additions will before long be made to that list. Instead of giving the history of one or more of these we shall take a general glance at some of the uses to which lichens are put, not only in Nova Scotia, but in various parts of the world. This general view will help to give a clearer notion of this group of humble plants. The

first in the order of time, then, if not in the order of importance, is the

GEOLOGICAL USE.

The first plant to secure a hold on the smooth surface of a rocky cliff or mountain side is the lichen. Its fine, powdery spores are wafted by the wind and adhere to the surface of the most polished flint. On this the growing plant paints its thin crustaceous thallus firmly, and the spreading stain chemically etches its adamantine foundation, making a rough surface which catches the dust specks floating in air. Thus a small patch of soil is formed which can support a larger lichen or a moss, which in like manner accumulates more material until a plot of ground takes its place, supporting weeds, grasses, bushes and finally the giant of the forest itself. Everywhere the lowly lichen is at work endeavoring to clothe the barren spots of the earth and preparing in the wilds of the rocky wilderness some place where man may find a place to dwell. So promptly do these dutiful vegetative creatures attend to this work that scarcely does the white hot lava of Vesuvius cool before they begin to take possession of it. So beautiful a description of this cryptogamic conquest is given by one of nature's truest poets (Crabbe) that we must quote him again:

"Seeds, to our eyes invisible, will find
On the rude rock the bed that fits their kind.
There, in the rugged soil, they safely dwell
Till showers and snows the subtle atoms swell
And spread the enduring foliage; there we
trace
The freckled flower upon the flinty base.
These all increase, till, in united years,
The stony tower as grey with age appears
With coats of vegetation thinly spread,
Coat above coat, the living on the dead;
These then dissolve to dust and make a way
For bolder foliage, nursed by their decay;
The long-enduring ferns in time will all
Die and dispose their dust upon the wall,
Where the winged seed may rest till many
flower
Shows Flora's triumph o'er the falling tower."