

the reports of the two last meetings were read by Mr. Wade, as they were in connection with the present subject.

Mr. Hume then said :

After the very beautiful essay of our friend Mr. Page, and the very practical one of Mr. Wade, I cannot but feel rather diffident in undertaking the part of the work you have assigned to me ; more particularly as the lighter class of soils have hitherto been in a great measure avoided by our most intelligent practical farmers, and in consequence the amount of experimental information concerning them is in some degree limited.— Having myself, however, been brought extensively in contact with what are called the light soils of our Township, and having also seen much of such lands at home, I shall endeavor to express as briefly as possible the ideas impressed on my mind as to the rotations best to be carried out in their management :

And first I would give in my adhesion to the remark of Mr. Wade—that in the present irregularity of our markets, and deficiency of circulating medium, it is impossible to follow out any rotation based wholly or even mainly, as is the case at home, on the preservation and amelioration of the soil. But with our farmers here, who are generally in much need of ready money, the first motive must ever be the procuring a supply of that article. Perhaps, however, our best course in considering the subject is in its relation to the soil, keeping our eye at the same time over the general profit of the transaction.

In speaking of the light soils of this Township we generally refer then, to the gravels which extend generally along the slopes of the old lake beach, or to the range of table land stretching northward from that ridge. The former timbered with a pretty thick growth of hard and soft maple, basswood, beech, birch, white and black ash, iron wood, &c. When a second growth takes the place of the trees cut down, pine and white oak show themselves pretty extensively interspersed with hickory, slippery and rock elm, and an undergrowth of thorn, hazel and bramble. The latter clothed with a heavy growth of oak and pine, the one predominating where the subsoil is of a clayey character, the other where it inclines to sand or gravel. The black soils will usually I presume be classed with those of a heavier character, a position which in England would scarcely have been allowed them.

Our gravelly lands then generally lie on the slope of what seems formerly to have been the lake basin, with some of the undulating heights approaching thereto. They mostly consist of three inches to a foot of gravelly loam, reposing on a subsoil of gravel, of whitish clay, mixed with friable limestone, often so compact as to form a hard pan ; or more rarely on a reddish yellow clay ; in the two latter cases they have usually a tendency to be springy. Large boulder stones, such as Geologists attribute to the action of Icebergs, lie scattered often to an inconvenient extent near the ridge ; though the excellence of the soil in such localities is sometimes fully attested by the heavy growth of timber, low eminences of sand too are frequently thrown up by

the action of currents when this district was submerged. Along the slope of this ridge are numerous beautiful perennial springs produced apparently by the singular peculiarities of our other variety of light land, the heights or plains extending to Rice Lake.

These plans are generally speaking covered by 2 to 6 inches of light yellow sandy loam, almost destitute of vegetable matter, except where the action of some streamlet has caused a difference in the character of vegetation. But their peculiarity lies in the subsoil. Up to a recent period this was thought to be very inferior but it is now ascertained to consist in many parts of heavy brown or reddish brown clay, in others of whitish clay mingled with friable limestone and in a small minority of instances as far as my information goes, of sand. I speak of our own Township.

Of the high quality of these clays there can be no manner of doubt, and perhaps I may say nearly as much for the clays intermingled with limestone, for these rarely—as in the lower slopes—degenerate into hard pan, but are usually dry, and this dryness I have found in many cases—perhaps it is general—caused by a peculiar natural drainage, viz., sand wells. We have sand hills on the lower lands, here sand wells. I have picked into a hard subsoil of solid clay and limestone gravel, lying at a depth of six inches and within six feet, have dug down twelve feet without finding a bottom to the pure sand. You may see holes twenty feet in depth and not over six feet in diameter, which have sunk perpendicular as a well, carrying down all the surface growth, whilst scattered around might be found such cavities in various stages of being filled by the growth of trees and the mouldering in of the sides. In other parts again, the slopes around seem to converge into a basin, often almost resembling an old quarry hole, but seemingly with no superficial outlet for the drainage thus drawn towards it. I can only account for these singular phenomena by supposing the sand gradually drawn from beneath by the washing of the fountains of those springs which bubble up so beautifully around the margin of the ridge beneath ; but the well like shape and solidity of the sides of these sinks when new, forms a very striking peculiarity.

I am sorry I am no Geologist, but the growth of timber on these plains and the deficiency of vegetable matter, tells us that at a comparatively recent period they have been a barren waste, a peculiarity which we can only conceive caused by their having been submerged up to an epoch not very distant from our own, and probably rather rapidly upheaved by subterranean agency. But talking of the timber on these lands brings us back to our rotations. It is beautiful to see the pine giving way to the soft maple or oak, as the land is lighter or more clayey, then gradually creeping in the maple, white ash, iron wood, beech and all the other denizens of the forest : each, as the ever changing character of the soil adapts it to its growth. We may thus learn how varying is the food of each, and how the very growth of one plant by some indefinable process fits the soil for the reception of another.