

UNDETERMINABLE MATERIAL.

While the body of the peat consists of the two species of mosses described, and chiefly of *Hypnum*, much fragmentary matter was separated out in boiling. Upon close examination this proved to consist principally of fragments of the leaves of mosses, together with much organic residue of an altogether indeterminate character. Short fragments of sedge leaves were also met with now and then, but they do not constitute any very prominent element. A very careful examination of the washings was made, in the hope of discovering spores or some other evidence of fructification, but the results were wholly negative in character. We are thus brought to the conclusion that the peat, as represented by the specimens examined, consists almost wholly of a deposit of *Hypnum*, with which a small quantity of *Distichium* is mingled.

In this connection the question naturally arises as to whether these plant remains represent material deposited in the place where it originally grew, or if it was displaced by the action of water and gradually accumulated where now found. With respect to the lignite, no satisfactory answer can be given. The peat, on the other hand, affords conclusive evidence on this point. It has already been shown that the peat occurs in the form of consolidated flakes. These masses show upon examination that the component vegetation has been felted together in such a way as would be possible only through the action of water. In addition to this, there is much mingled sand and clay, which is also deposited between the flakes, while it has already been shown that the bits of wood inclosed in the peat are drift material. If further evidence were needed, it could be obtained from the known habits of growth of the plants represented. Thus we find that *Distichium capillaceum* grows in the fissures of rocks and similar situations, from which it must have been dislodged through the action of water. *Hypnum recurvans* is very common in mountainous districts, where it is found growing upon decaying trees and logs, and its accumulation in such quantity as is represented in this peat can only be explained upon the ground that it was gradually carried down to lower levels by the continued washings of spring freshets. It is thus evident that all of this material must have been derived from localities much nearer the head-waters of the Missinibi than represented by its present position, and thus it had its origin in somewhat more southern localities. Both of the mosses found, however, are of a northern type, and at the present time are distributed within the same general area, so that they afford no special evidence of climate beyond that already derived from the other forms of plants observed.