

derived from the denudation of the chalk beds of the neighbouring cretaceous districts. They appear to have attracted more than ordinary attention, various notices of them having been published by Mr. Stowe of Buckingham, (to whom the Institute is indebted for the specimens forwarded through Dr. Gibb,) the Reverend S. G. Osborne, and others; but concretionary bodies of a more or less similar nature, are well known to be of common occurrence, and frequently to present imitative forms of a very varied character.* As pointed out on their first discovery, by the Reverend Professor Sedgwick, the term "fossil vegetable remains," applied to these concretions, is altogether a misnomer; although the original perishable nuclei, around which the calcareous deposition took place—supposing a nucleus to have been present at all—may very possibly, though not necessarily, have been fucoidal. We quote the following passage from Dr. Gibb's communication, forwarded with the specimens in question:—"The presence of fossil infusoria seen in these specimens, does not necessarily prove them to be organic or marine, because we know very well that such bodies may have become incorporated or introduced from without, during the formation of the bed of clay from the debris of the chalk and other rocks. That such may be the case, I think there cannot be any doubt, and I am supported in this view by my friends Mr. J. W. Salter, Mr. T. Rupert Jones, and others. Mr Salter, moreover, thinks such concretions are the commonest things in nature, and such as might be expected in argillaceous matters containing carbonate of lime. They have assumed a flattened and compressed form, owing probably to pressure from the surface above. I am free to admit, however, that the material forming these concretions, may have become deposited around some marine vegetable remains, in consequence of the rather unusual forms assumed. In beds of clay employed for economic purposes, numerous concretions, [assuming various forms, mostly rounded, are very frequently found by the workmen, especially when the clay contains much calcareous matter. The workmen call them "race," and they consist of quartz-sand, mica more or less decomposed felspar, peroxide of iron, and a large proportion of calcareous particles.† The greater part, if not the whole of the latter, Mr. C. H. Sorby, believes to have been derived from the chalk; for numerous characteristic fragments of the *Foraminifera*, of which that deposit is almost entirely composed, are found in it. He thinks such concretions are formed from a mixture of chalk and fine clay, and that they have become consolidated by the action of carbonic water. Such, I conceive would be also an explanation of the specimens from Tingewick, with the possible exception of a form or shape constituting a nucleus."

COAL FIELDS OF KENTUCKY.

The following remarks on the coal deposits of Kentucky, are extracted from the

* We may mention here, that we have recently placed in the collection of the Canadian Institute, some peculiar, silicious concretions, (hitherto, we believe, unnoticed,) from the Black River Limestone of Lake St. John, near the Indian Village of Rama, north-east of Lake Simcoe, in Canada West. Some of these strikingly resemble bones of various kinds; and they present moreover, an internal cavity, often lined with a druse of minute quartz crystals. Their concretionary character is, however, quite evident. One of the specimens obtained, exhibits on its surface a strongly marked impression of the flat valve of an *Orthis*—probably *O. testudinaria*, or *O. costalis*. It may also be mentioned in connection with this subject, that the *Palæotrochis* of Emmons, a supposed fossil coral, has lately been shewn by Professor Hall, to be merely a concretionary structure. E. J. C.

† Quarterly Geological Journal, vol. 8, p. 186.