

them together into a saccharoid mass insoluble in hydrochloric acid.

The beds of gravel including the blocks contain fragments of marine shells, as *Turritella*, *Cardium*, *Cyprina*, &c., examples of which I obtained from a gravel-pit near Hemingstone Church.

Unless it can be proved that the coast Boulder-clay of Norfolk is really older than that occupying the high ground of the eastern counties, the gravel containing the consolidated blocks would appear to be the lowest member of the Boulder-clay series in the east of England.

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2. NOTES on some CHEMICAL ANALYSES of VARIEGATED STRATA.

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[The publication of this paper is deferred.]

(Abstract.)

THE author gave the results of some analyses for the determination of iron in the light and dark parts of variegated slates, sandstones, and marls, the colour of which is due to oxide of iron, and in which the variegation appears to be disposed independently of mechanical arrangement. The analysis in each case exhibited the fact that the lighter blotches, spots, and stripes contained a smaller proportion of the colouring oxide than the average mass, a proportion which implies an actual difference in the percentage of the metallic iron, and which could not be accounted for by any mere difference in the state of its combination. This shows an actual departure of a part of the colouring oxide out of the colourless patches, and a dispersive process which seemed to be the very reverse of the segregation of nodules of carbonate of lime and carbonate of iron out of a clayey matrix. Among the forms of variegation referred to were:—(1st) that resulting from the segregation of dark blotches out of a lighter matrix, the evenness of colour of which does not appear to have been materially affected by the withdrawal of a part of its colouring-matter; (2nd) that resulting from the segregation of dark blotches out of a lighter ground, each of which is concentrically surrounded by a distinct and well-defined zone lighter than the general ground; (3rd) strata variegated with light blotches containing a smaller proportion of colouring-matter than the general ground, but not arranged concentrically round a darker nucleus; (4th) the variegation of coloured strata with both light and dark blotches, containing respectively a smaller and larger proportion of the colouring oxide than the general ground, but which are not arranged, as in the second case, concentrically with each other.