THE TERM 'COLLUVIAL' AS APPLIED TO CLAY DEPOSITS.

While investigating clay deposits in the northern part of Georgia, my attention was called to a large number of recent deposits of some economic value, which were neither residual nor alluvial in origin, and in attempting to classify them the need for a special term was apparent. The term 'colluvial' is proposed to designate a type of clay deposits which occur in sinks or depressions and at the foot of slopes. The term 'colluvial' is used by G. P. Merrill[1] to include talus and cliff débris, and the soil resulting therefrom. By extending somewhat the meaning of the term as used by Dr. Merrill, the particular type of clay deposits in question can be included under it. The term, in connection with clay deposits, has been very little used, but deserves recognition, both from a scientific and economic view point.

Colluvial clay deposits differ from residual deposits in that they have been transported, and from alluvial deposits in that they have not been carried in suspension by streams and are not flood-plain deposits. They occupy a position midway between residual and alluvial deposits, and may, by gradual transition, pass into either. They are due to the transportation of residual material, by gravity and wash, to the foot of slopes.

The factors in the formation of colluvial clay deposits are: surface decay of rock masses, producing residual deposits, transportation of this residual material by gravity and wash, and rearrangement by mechanical and chemical changes. To illustrate the formation of a deposit take as an example a hill of residual material derived from a crystalline rock. The section of this residue is, beginning at the top, red clay soil containing coarse quartz fragments, yellow to gray clayey residue, disintegrated rock, and, finally, unaltered rock. By wash by rain water, the finer clay and mineral particles of the residue are carried furthest and lodged at the slope of the hill, forming the clay deposit. In granite regions, the clay at the foot of a slope may be almost white, gradually changing into the red and yellow soil higher up the slope.

An analysis of one of these colluvial clays, from a granite region, is:

Moisture at 100° C.	2.462
Loss on Ignition	8.654
SiO_2 (total)	60.110
SiO_2 (sand)	31.150
Al_2O_3	24.256
Fe_2O_3	2.080
CaO	.110
MgO	trace
MnO	trace
Na_2O	.262
K_2O	1.647
TiO_2	.754
Total	100.331

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[1] 'Rocks, Rock Weathering and Soils,' p. 319.

QUOTATIONS.

'BOTANY IN ENGLAND': A REPLY.[1]

In the September number of the *Journal of Botany* Mr. James Britten deals at considerable length with the portion of my presidential address to the botanical section at the recent meeting of the British Association at York, which was printed under the title 'Botany in England.'

As Mr. Britten's criticism seemed based on a misapprehension of the drift of my remarks, and as it was printed in a medium often consulted by systematic botanists, I naturally sent a reply which I hoped might be inserted in a forthcoming number of the same journal. In his capacity as editor, however, Mr. Britten did not see his way to insert my reply in the form in which I had written it. As I was unable, in my turn, to fall in with the restrictions imposed by Mr. Britten, hospitality for a rejoinder had to be sought elsewhere. It is under these circumstances that the present note appears in the pages of the *New Phytologist*.

Whilst welcoming any criticisms that Mr. Britten may think fit to make, I may, perhaps, be permitted to express the hope that the tone which animates his recent utterance may find

[1] From *New Phytologist*, Oct., 1906, pp. 173–176.