

by which the uppermost zones of the Chalk have been pushed in a vertical position under gently inclined lower zones. On the same line of disturbance at Lulworth Cove, the squeezing-out of plastic strata from a part of the fold where compression has been great, and the folding and packing away of such strata in a part where there was a tendency to gape, is described. Farther west the same disturbance is accompanied by inversion of a great thickness of beds, great compression, with vertical crush-planes and nearly horizontal slide-planes. The latter slope southwards, and the roof has moved northwards and upwards over the floor; these slide-planes have accompanied the phenomena of inversion.

The Ridgeway fold and fault resemble those of the Isle of Purbeck, but for some distance the thrust-plane has split, a part of it cutting into the Oolitic floor on which the Upper Cretaceous rocks were laid down, and causing a wedge of Oxford Clay, Cornbrash, and Forest Marble to be thrust over Wealden, Purbeck, Portlandian, and Kimmeridge Clay.

The Litton Cheney fault is connected with an anticline in the Chalk and Greensand which has been superimposed upon a syncline in Kimmeridge Clay and Corallian.

The intra-Cretaceous disturbances have been distinguished by the fact that Upper Cretaceous rocks rest undisturbed upon them, the difference in inclination amounting sometimes to 40°. This movement may have commenced before the Lower Greensand was laid down, but took place principally between the deposition of that formation and the Gault.

The features produced by the earlier movements were planed down before the Gault was deposited, and have had no share in producing the existing physical geography. The later movements, on the other hand, have determined the lines of drainage and the great physical features of the region.

CORRESPONDENCE.

DR. CALLAWAY AND METASOMATOSIS.

SIR,—My friend Dr. Callaway has been kind enough to send me a copy of a short paper of his in the *GEOLOGICAL MAGAZINE*, in which he says that in my note on his views I have made “the astonishing error” of attributing to him an opposite opinion to that expressed by the words, “a mere gradation between two kinds of rock proves nothing as to the genetic connection between them,” and that I have thereby misunderstood and misrepresented him; yet on the very next page he says of such gradation, without mentioning anything else, that it justifies certain conclusions about this connection. Is not this also the opposite to the above opinion?

But to try to be plain. I do not suppose that Dr. Callaway holds the general proposition—“If one rock passes into another in the field, one of them must be derived from the other,” but I do think

he argues on the basis of the following: "The character of the stages by which one rock passes into another in the field *may* suffice by itself to prove that one of them is derived from the other." This also may be assented to; but the case when one rock is diorite and the other a quartz-schist, will, for few minds, be included amongst those in which such evidence *does* suffice.

Dr. Callaway illustrates his meaning by a piece of underdone beef, as though the matter were one of simple contact or thermo-metamorphism; but when he can show us how, by slicing, rolling, squeezing, or roasting, to convert a piece of lean meat into fat, or *vice versa*, he will introduce a novelty into the kitchen, and experimentally illustrate what he wishes us to believe in the case of rocks.

PORT SAID, 12th June, 1895.

J. F. BLAKE.

PHOSPHATIC CHALK AT TAPLOW, BERKS.

STR.—I hear from Mr. Lodge, estate agent to W. H. Grenfell, Esq., Taplow Court, that phosphatic chalk has been met with at a point 870 yards N.E. by E. from the pit which I described in the Quart. Journ. Geol. Soc., vol. xlvii, p. 356 (1891). The section in the new excavation is given by Mr. Lodge as follows:—

Reading	Beds	ft. in.
	{ Clay with a layer of greensand and flints	
	{ at its base	11 0
Upper Chalk	{ Chalk	8 0
	{ Phosphatic Chalk	2 0
	{ Hard white Chalk	
		21 0

It differs from the section at the pit in the phosphatic chalk being eight feet below the base of the Tertiaries instead of twenty feet, and in the phosphatic layer being apparently only two feet thick instead of eleven feet. There are no differences distinguishable under the microscope between the phosphatic beds of the two localities.

28, JERMYN STREET, S.W.

A. STRAHAN.

MISCELLANEOUS.

MR. THOMAS WILLIAM NEWTON, the Assistant Librarian of the Museum of Practical Geology, Jermyn Street, after a service of nearly thirty-five years, has retired from office under the Treasury Order relating to age. Mr. Newton was joint compiler with the late Mr. Henry White of "A Catalogue of the Library of the Museum of Practical Geology and Geological Survey," published in 1878. This work contains references to about 28,000 volumes, and although a partial dismemberment of the library took place in more recent years, it is still considered a most important compendium to geological literature and other subjects of the natural sciences.