

cation; but since "E. C. H. D." hazards the observation that "bitumen or petroleum having in some instances arisen from a 'special mineralization' of animal remains, is a doctrine by no means generally accepted;" to adduce only one of many well known instances tending to confirm the truth of this view, also, viz., that of the mountain limestone of the adjacent district (Derbyshire), which almost wherever highly fossiliferous contains bitumen in cracks and joints of the rock, evidently derived from the animal substance of the fossil remains, and not due to the influence of heat.

In conclusion it only remains to ask, what necessity for the mystery and difficulty with which the subject is involved in "E. C. H. D.'s" estimation? To our mind the generation of bitumens is easily and simply explained by the operation, at the ordinary terrestrial temperatures, of chemical laws of which we have cognizance, and the phenomena attending the emission of the oils and associated gases, are equally explicable by known physical laws. The facts and circumstances connected with the occurrence of petroleum and bitumen, which induce "E. C. H. D." to accept a "distillation theory," have a directly contrary influence on us, and convince us that these substances are the result of a law of mineralization operating as regularly, and almost as extensively, as that which produces coal and lignite.

Yours respectfully, GEO. P. WALL.

SHEFFIELD, March 26, 1866.

To the Editor of the GEOLOGICAL MAGAZINE.

DEAR SIR,—Since I sent you the last communication on the junction of the Chalk and Thanet Sands,¹ Mr. T. McKenny Hughes has read a paper before the Geological Society on the same subject.² His theory of the formation of the green-coated flints is that, they are the result of the solution of the chalk by carbonated water after the deposition of the Thanet Sands; the objection to this appears to me, that by such means we should not have that remarkably even surface presented by the Chalk at its junction with the Thanet Sand, nor that marked peculiarity of the green-coated flint, resting on other flints not presenting this peculiarity, moreover where the chalk is worn by the action of carbonated water as in the pipes and furrows of the chalk, we find a most *uneven* surface presenting no appearance like that of the junction of Chalk with the Thanet Sands. The tabular flint, immediately below the green-coated flints, is by no means so continuous as to present an obstacle to the passage of water, sufficient to account for the even undissolved chalk, and wherever pipes do occur beneath the Thanet Sands (which, as far as I can ascertain, is only the case where the latter is near the surface), the green-coated flints sink down into the pipe with the tabular uncoated flint, which is always to be distinguished from the former.

I believe the tabular flint has been formed subsequently to the Thanet Sands, and the green-coated flint resting upon it.

Yours, etc.,

GEORGE DOWKER.

STOURMOUTH, April 18th, 1866.

¹ See *ante*, p. 210.

² See *ante*, p. 223.