

CORRESPONDENCE.

ON THE FORMATION OF THE DIAMOND IN THE TERTIARY
DRIFTS OF NEW SOUTH WALES,¹ ETC.

After referring to the recent artificial production of the diamond by Mr. Hannay, the writer adds:

“When examining the New England and Mudgee Districts in New South Wales, I came to the conclusion, as did Mr. Norman Taylor also, that the diamonds (of which hundreds were found in the gold and tin drifts) had been chemically formed in the Miocene and Pliocene Cements, which are very ferruginous and sometimes siliceous, the waterworn pebbles being found coated with a film of silica. The recent alluvium only where derived from the Tertiary drifts is diamond-bearing; and the Tertiary drifts themselves contain diamonds; but the older rocks, Silurian, Devonian, or Carboniferous, do not contain them, or rather, the recent alluvium derived from them does not, although the Tertiary drifts themselves have also been derived from the same Palæozoic rocks; therefore, we can only conclude that the diamonds have been formed in the drifts.

“These drifts are nearly always capped with basalt. I believe from the nature of the rocks that water containing some carbonate in solution, and also silica, was present, a chemical reaction taking place and setting free the carbon in a crystallized form. In the same way, I believe, the minute scales or crystals of graphite have been formed in our Hawkesbury Sandstone (Triassic). This sandstone consists of (originally) rounded grains of quartz sand, coated now with silica in a crystallized state, and with the scales of graphite scattered through it. The sandstone, when broken, has quite a glittering appearance, from the silica coating the rounded grains of sand with the graphite occurring at intervals through the mass. I mentioned this to Prof. A. Liversidge, but he thinks the scales of graphite were deposited with the sand; I think not, however, for the sandstone, so false-bedded, etc., bears evidence of deposition by strong and variable currents of water, which would have destroyed the small graphite grains by attrition. On this account I think the graphite must have been chemically formed during the slow transmutation which the sandstone has undergone.

We shall be much interested to hear of Mr. Hannay's process for making the diamond.”

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ECCENTRICITY AND GLACIAL EPOCHS.

STR.—Mr. Greenwood's demonstration in the July Number (p. 332) looks clear, but is, I think, not quite sound. The error is rather subtle, and not easily made out. I believe it to consist in attributing to the sun's heat only the actions of melting snow and raising temperatures, which tacitly neglects its primary action of supplying the place of that heat which the earth and its atmosphere are

¹ In a letter to R. Etheridge, Jun., dated “Sydney, 9th April, 1880.”