

CORRESPONDENCE.

THE UPPER INDUS BASIN.

SIR,—Whenever Colonel Greenwood writes on the subject of rain and river action, we are sure to learn a good deal. I am very glad that he has noticed the facts about the Upper Indus alluviums which I laid before the Geological Society, and has entered into the discussion of their causes. With much that he has written I heartily agree; and if on one point I still differ, it is with a mind open to be convinced if the causes I proposed to account for the present state of the alluvial deposits should seem after further argument either inadequate or unnecessary.

I grant the "hard gorge and soft valley" theory of Colonel Greenwood generally; in some instances where I have observed the alternation, a difference in the rocks can be seen to account for it; in others the reason is less clear. Still I am ready to believe that further knowledge of the character and position of the rocks would show that this theory is applicable to most cases.

But I feel great difficulty in agreeing that the accumulation and subsequent denudation of thick alluvial deposits were due only to the variations in slope of the river-bed. In the first place I cannot see how hundreds of feet of alluvial strata could be formed one upon another in a wide valley ending in a gorge, *while the bed of the gorge was sinking from erosion.*

Secondly, we have the alluvial gravels, to a great thickness, *in the gorges as well.* This is evidence that, at the accumulating time, alluvium (of varying degrees of fineness very likely) was deposited all along both valley and gorge; that the river-bed rose everywhere, though not in all places to the same relative height above its rock bottom, nor probably, with one uniform gradient.

There are many instances in the narrow parts of the Indus Valley itself of alluvial pebble-beds two and three hundred feet thick, while in the narrow tributary valleys six and seven hundred feet of them are seen. The cases of Khardong and Tainyār are the two most striking ones that come to my mind at this moment.

This it is that makes me think Colonel Greenwood's theory insufficient. That my own is the right one of course does not follow; and I will not fill up your space at present in maintaining it, being content to attempt advancing the discussion one stage at a time.

28, JERMYN STREET,
January 21st, 1874.

FREDERIC DREW.

THANET CHALK.

SIR,—I omitted to state in my paper on this subject (GEOL. MAG. Jan. 1874) that the average diameter of the Ammonites exhibited in the Isle of Thanet is at least three feet: also that any person visiting the section should go at the first or last quarter of the moon, as "the springs" in the Island bring the high tide on between 12 and 1 o'clock in the day, and stop all continuous work between 9 in the morning and 5 in the afternoon.

F. A. BEDWELL.

23, OLD SQUARE, LINCOLN'S INN.
January 17th, 1874.