

ANOTHER POSSIBLE CAUSE OF THE GLACIAL PERIOD.

SIR,—In the discussion which took place on my paper on “Another Possible Cause of the Glacial Period,” read before the Geological Society on December 2, 1896, the only serious objection to it, as it seemed to me, was one by Dr. Blanford, in which he maintained that the explanation I gave on the basis of Professor Spencer’s hypothesis did not account for the extension of the Himalayan glaciers, which extension has been pointed out by Sir J. D. Hooker, and which is, in all probability, referable to the Glacial Epoch. Not having previously considered this point, I was unable at the moment to meet the objection urged by Dr. Blanford; but I suggested greater elevation of this mountain chain, which would have not only increased the cold, but would have caused greater precipitation of snow at levels on the flanks relatively lower than at present. Further consideration induces me to believe that this is a sufficient explanation, as there are good grounds for believing that such elevation actually took place in the Pliocene Period, continuing into that of the post-Pliocene. It has been made abundantly clear that at this epoch the whole region of the Mediterranean basin underwent considerable elevation, when this great inland sea was closed against the ocean by the rise of the Straits of Gibraltar into land, and when a chain of lakes connected by rivers was established from the Black Sea throughout. This was the epoch of the great migration of the Mammalia from the Europe-Asian Continent into Africa, and the formation of the causeway, now submerged, between Italy and Tunis. The epoch was one of increasing cold, and affected in the direction of extension downwards the glaciers of the Pyrenees, the Alps, and the Caucasus; and also gave rise to those of the Lebanon, first determined by the same distinguished traveller to whom I have referred above. Is it not probable—nay, is it not certain, that this great upward movement of the crust, in an easterly direction, was continued into the Himalayas, which lie almost in the same general line of upheaval? What reason have we for supposing that it stopped short anywhere between Syria and the region north of the Ganges? I know of none; and if this be admitted, Dr. Blanford’s objection falls to the ground; at least, I wait for reasons to show that this is not the case.

I am glad to find that my views are gaining acceptance amongst geologists who were not present at the meeting of the Society. Professor Spencer wrote some time since that he had arrived at similar conclusions (though not published), as the necessary outcome of his own views regarding the uprising of the “Antillean Continent”; and a few days since I received a letter from Colonel Feilden, F.G.S., in which he says: “I am quite satisfied that your view is correct, that the so-called Glacial Epoch was due to some deflection of the warm current from the Polar Basin. If Professor Spencer is correct (and I have read his papers), the elimination of the Gulf of Mexico would deprive the northern half of the Atlantic of its chief heating apparatus.”

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