

glaciers in this country. I shall, therefore, confine my remarks to the subject as discussed this evening, and it does appear to me that the way in which Mr. Lyell has treated it is not the most fair and legitimate. He says: 'If we do not allow the action of glaciers, how shall we account for these appearances?' This is not the way in which we should be called upon to receive a theory. Now, it is not within our reach at present to refer each set of phenomena in geology to its adequate cause, but that is no reason why we should receive any theory that is offered to account for it. This glacial theory is brought forward to explain what has hitherto, to a great extent, been found inexplicable—the nature and position of diluvial detritus over considerable areas and in widely different climates. So far as it is founded on strict comparison and analogy it is to be received, but we must not overrate its influence; and it appears to me *incomplete* in three important particulars:—*Firstly*, in accounting for such an extent of diluvium over such wide areas, in countries of such opposite physical structure, surface, climate, &c. *Secondly* [from the] marine remains of the glacial period, showing the continents to be submerged. Mr. Darwin has described an island capped with snow in the equivalent latitude of Yorkshire, and by supposing an equal extent of water in our Polar regions, we might induce a degree of cold sufficient for that; but these glacial phenomena are found over too wide an extent to allow of that. (Mr. LYELL—'I have attempted to account for that in my paper'—here interrupted. Dr. BUCKLAND—'So have I in a paper which is not yet written!') Mr. WHEWELL, continuing—Our attention to-night is limited to Dr. Buckland's paper. *Thirdly*, the physical conditions under which glaciers now exist. We find them universally stretching out from lofty mountain-chains, which take their rise in *warm* climates, so as to allow of the downward motion and the retiring in summer. Mr. Lyell speaks of the prodigiously *rapid* retreat of a glacier which amounted to half a mile in a single summer. But where shall we obtain mountains as *fulcra* for glaciers, stretching many leagues into the plains, producing such results as are ascribed to their action in Scotland?

Dr. BUCKLAND resigned the chair to Mr. Greenough, and argued the *à priori* credit to be attached to his 'narrative,' from the circumstance of his having been a 'sturdy' opponent of Professor Agassiz when he first broached the glacial theory, and having set out from Neuchâtel with the determination of confounding and ridiculing the professor. But he went and saw all these things, and returned converted. And he considered the testimony of four such competent observers as himself, Agassiz, Renouard, and [De Charpentier] who, next to Saussure, had spent more time in the Alps than any other geologist, sufficient to prove to all the truth of their observations and the correctness of their inferences. He referred to Professor Agassiz's book, and condemned the tone in which Mr. Murchison had spoken of the 'beautiful' terms employed by the professor to designate the glacial phenomena. That highly expressive phrase *roches moutonnées*, which he had done so well to revive, and that other 'beautiful designation' the glacier *remanié*! *remanié*! continued the doctor most impressively, amidst the cheers of the delighted assembly, who were, by this time, elevated