

those that contain no remains of animals or plants, and show the metamorphic action of heat, by which they have been partially or wholly melted. Now, most geologists consider this horizon as the starting place of life on our globe, and that the rocks below it were formed before the existence of animals or plants. But some — and they eminent geologists — maintain that these lower rocks did once contain organic remains, which have been obliterated by the influence of the intense heat, and that, therefore, we cannot tell when life first appeared on the globe. For aught we know, these metamorphisms may have been going on forever.

A few years ago it might have been difficult to prove directly that this hypothesis is false, though the history of the rocks afforded many presumptions against it. But the researches of the last few years among the oldest of the fossiliferous rocks have furnished its full refutation. For it has been ascertained, that both in Great Britain and in this country, stratified rocks, several miles in thickness, exist below those containing fossils, and yet retain so much of a mechanical character, and are so partially metamorphosed, that if ever animals and plants existed in them, they would not have been obliterated. The metamorphic action has not been sufficient to melt down the pebbles and fragments originally deposited, and therefore not great enough to destroy the harder parts of organic beings, had they been present. Here, then, we have an indisputable horizon of life, below which there is no reason to suppose it ever to have existed.

But even if we admit that the apparent is not the real horizon of life in the rocks, there is another scientific fact that proves it did once begin, however far back we may suppose the metamorphic cycles to have extended. In other words, we can prove that there was a time when life did not exist on