primeval northern land. Yet it represents but a small fraction of the material so removed, for the sea of that ancient time spread over nearly the whole of Europe eastwards into Asia, and everywhere received a tribute of sand and mud from the adjoining shores.

There is perhaps no mass of rock so striking in its general aspect as that of which this northern embryo of Europe consisted. It lacks the variety of composition, structure, colour, and form, which distinguishes rocks of more modern growth; but in dignity of massive strength it stands altogether unrivalled. From the headlands of the Hebrides to the far fjords of Arctic Norway it rises up grim and defiant of the elements. Its veins of quartz, felspar, and hornblende project from every boss and crag like the twisted and knotted sinews of a magnificent torso. Well does the old gneiss of the north deserve to have been made the foundation-stone of a continent.

What was the character of the vegetation that clothed this earliest prototype of Europe is a question to which at present no definite answer is possible. We know, however, that the shallow sea which spread from the Atlantic southward and eastward over most of Europe was tenanted by an abundant and characteristic series of invertebrate animals —trilobites, graptolites, cystideans, brachiopods, and cephalopods, strangely unlike, on the whole, to anything living in our waters now, but which then migrated freely along the shores of the Arctic land between what are now America and Europe.

The floor of this shallow sea continued to sink, until over Britain, at least, it had gone down several miles. Yet the water remained shallow because the amount of sediment constantly poured into it from the north-west filled it up about as fast as the bottom subsided. This slow subter-