

The early portion was now sent to the printer; but the labour involved was so great, and the time that could be devoted to it so restricted, that the book was not completed and published until October 1882.

Most of the inspection-work of the Survey now lay along the margin of the Highlands and to the north of them. Rambles among the eastern Grampians have always had a peculiar charm for me. The wide areas of tolerably level moor on the summits of these mountains impress one as an unexpected feature of the landscape, and as a striking contrast to the narrow, jagged crests and peaks of the Western Highlands. At heights of 3800 feet one comes upon extensive tracts which, if they lay in the Lowlands, might be used as golf links or as racecourses. An invigorating influence seems to pervade these relics of an ancient table-land. One may walk there for miles without fatigue in the bracing air, often with impressive views of distant heights in the range, or of the plains of the low country. Then there is always the sight of the living creatures of the high mountain fauna—a herd of red deer may be startled, the blue Alpine hares watch the human trespasser for a time before they scamper off, and the ptarmigan rise in alarm from their nests, leaving their broods to run helplessly among the quivering bent. If one has also eyes for plant forms, there is the Alpine flora to add another source of interest, and another problem to the many geographical questions which the walk suggests.

In the course of the summer of 1881 the Geological Survey made a remarkable discovery of fossils in the lower Carboniferous rocks of Eskdale in the south of Scotland. A number of new species of fishes were obtained, but the most startling feature of the collection was the presence in it of abundant well-preserved specimens of an ancient type of scorpion. A brief account of this discovery which appeared in *Nature* brought me a letter from Charles Darwin, which is inserted here as an instance of his keen and watchful interest in the progress of palæontological research, and his generous

impulse to further it by contributing to its financial support.

Down, Beckenham, Kent, Nov. 1881.

MY DEAR SIR,

I have been much interested by your account in *Nature* of the great "find" in the Lower Carboniferous strata. As so many scorpions were found, one might hope for other terrestrial animals and plants, if some new places were searched by blasting away the overlying rocks. But I daresay you would not think yourself justified in employing the officers of the Survey in such work. This leads me to make an offer,—and I hope and trust that you will not think that I am taking a liberty in doing so,—namely to subscribe £100 or £200 if you can find anyone whom you could trust to send, and if you think it worth while to make further search for the chance of fresh and greater palæontological treasures being discovered. If my offer seems to you superfluous or presumptuous pray forgive me and believe me.

My dear Sir,

Yours sincerely,

CH. DARWIN.

In thanking the great naturalist for this characteristically sympathetic offer, I was able to assure him that we should probably obtain from our own resources the means of completing the investigation. I added that his hope that other animals might be found, had already been partly realised, for we had unearthed two specimens of small amphibians. So well preserved were some of the scorpions that their chitinous tests were still in some degree elastic, and the poison gland was sometimes still recognisable.

At this time a detailed examination of the detrital deposits of the deep sea, collected during the voyage of the *Challenger*, was in progress in Edinburgh in the hands of Dr. John Murray and the Abbé Renard. As the Belgian geologist remained for some time in Scotland, we saw a good deal of him in my family circle, where his

we walked back from the Abbey to the Royal Society's rooms, my colleague, Professor Larmor, made a remark to me which brought vividly to the mind the greatness of Kelvin, as judged by one of the most eminent of the limited number of judges competent to form an estimate. "Conceive," he said, "a perfectly level line drawn from the summit of Newton's genius across all the intervening generations; probably the only man who has reached it in these two centuries has been Kelvin."

The British Association for the Advancement of Science met in Dublin in the year 1908, under the Presidentship of Francis Darwin. It was in many ways an enjoyable, as well as useful, meeting. To me the week was made additionally agreeable by my being lodged at the Deanery of St. Patrick's under the hospitable roof of Dr. Bernard, who since then has been Bishop of Ossory and Archbishop of Dublin, and who has now returned to his Alma Mater as Provost of Trinity College, Dublin. Amid all the charms of cultivated society, never more delightful than in the Emerald Isle, I often found my thoughts during this visit back in reverie amid the scenes of Swift's life within these same walls. A good memory may be quickened, and the appreciation of an author may be stimulated by actual residence in the home where he lived and wrote. The chequered career of the great humorist seemed at times to rise up before me as I sat where he as "Dean, Drapier, Bickerstaff or Gulliver" for half a lifetime wielded the pen of the greatest man of letters in his day.

It was a great gratification to all his many friends to see the modest, retiring Francis Darwin in the Chair of the British Association. He gave an opening address full of suggestiveness. At its close I was asked to second the vote of thanks to him. In doing so I pointed out how much help Charles Darwin had it in his power to obtain from his group of gifted sons. If there was any question of physics on which he needed light, he could apply to George, who stood in the forefront of the physicists of his time. If he desired assistance in any

botanical investigation, Francis was at his side in a moment. If he needed any piece of apparatus to be devised and constructed for his biological enquiries, Horace was an accomplished mechanic ready at hand. Or if ever he had a question of finance to consider, his banker son William was abundantly qualified to advise him.

Although the duties of the Secretaryship of the Royal Society took up a large part of my time, they did not prevent an active participation in the work of some of the other Societies and Institutions with which I was connected. Foremost among these bodies was the Geological Society of London, to which, as already mentioned, I was bound by long years of friendly association. In the winter of 1903-4 the President, Professor Lapworth of Birmingham University, was disabled by illness from discharging the duties of his office. As one of the Vice-Presidents I was asked by the Council to take his place in preparing the annual address from the Chair at the Society's anniversary in February. For the subject of this address I chose an examination of the evidence for the emergence and submergence of land in the British Islands during late geological time. In opposition to the published opinion of Professor Suess, I maintained the old belief that the changes of level have been mainly due to the rising and sinking of land, and not, as he contended, to variations in the level of the sea.

This dissent from one of the most prominent tenets of the distinguished Austrian geologist, naturally expressed in courteous and respectful language, never for a moment disturbed our sincere friendship. So far from allowing any differences of opinion on a scientific question to interrupt our cordial relations, I may mention that while I was correcting the proof of my address I was at the same time in correspondence with Suess to obtain from him personal details as to his career, for the preparation of an article on him and his life-work which the editor had asked me to write for *Nature*. The Copley medal had just been awarded to him by the Royal Society,