

ancient types might be found lingering in protected and isolated situations. "We can understand how it is that all the forms of life, ancient and recent, make together one grand system; for all are connected by generation. From the continued tendency to divergence, the more ancient a form, is the more generally it differs from those now living. The inhabitants of each successive period in the world's history have beaten their predecessors in the race for life, and are in so far, higher in the scale of nature; and this may account for that vague, yet ill-defined sentiment, felt by many palæontologists, that organisation on the whole has progressed. If it should hereafter be proved that ancient animals resemble to a certain extent the embryos of more recent animals of the same class, this fact will be intelligible."

Again, what a flood of fresh light was poured upon geological inquiry by the two chapters on Geographical Distribution in the "Origin of Species!" A new field of research, or, at least, one in which comparatively little had been yet attempted, was there opened out. The grouping of living organisms over the globe was now seen to have the most momentous geological bearings. Every species of plant and animal must have had a geological history, and might be made to tell its story of the changes of land and sea.

In fine, the spirit of Mr. Darwin's teaching may be traced all through the literature of science, even in departments which he never himself entered. No branch of research has benefited more from the infusion of this spirit than geology. Time-honoured prejudices have been broken down, theories that seemed the most surely based have been reconsidered, and, when found untenable, have been boldly discarded. That the Present must be taken as a guide to the Past, has been more fearlessly asserted than ever. And yet it has been recognised that the present differs widely from the past, that there has been a progress everywhere, that Evolution and not Uniformitarianism has been the law by which geological history has been governed. For the impetus with which these views have been advanced in every civilised country, we look up with reverence to the loved and immortal name of Charles Darwin.

(To be continued.)

THE TOTAL ECLIPSE

THE Special Correspondent of the *Daily News* with the English Eclipse Expedition telegraphs as follows under date, Sohag, May 17:—

This eventful morning was the finest we have yet had, cool and without a cloud. A great crowd of natives in picturesque costumes lined the road and the hill between the camp and Sohag. The shore of the Nile, except before the observatories, was packed with dahabeeahs bringing the governors of the provinces and other notables to observe the eclipse and do honour to the strangers. Thanks to Moktar Bey, in charge of the camp, and a force of soldiery, there was no confusion. Along a line of 300 yards the French, English, and Italian observers were left in undisturbed possession of tents and observatories. Nevertheless, while the sky darkened and assumed a leaden hue, the hills bounding the Nile bathed in purple, the great silence gave way, and from river and

palm-shaded slope arose a shout of wonder and fear, which reached its climax at the moment of the sun's disappearance; nor ceased then, for, in addition to the horror of an eclipse—which the natives here as in India attribute to the act of a dragon—there appeared in the heavens on the right of the sun an unmistakable scimitar. The eclipse had, in fact, revealed the existence of a new comet. Despite the short totality, many valuable results have been obtained. I am permitted to send a copy of the collective telegram sent to the various Governments, showing many new facts touching the sun's atmosphere; though matters have not become much simpler, which means more work. The layer to which much absorption has been ascribed seems vanishing from existence. The band K in the spectrum of the corona fully explains the eclipse colouring. The collective note is as follows:—

"Unprecedented facilities have been accorded by the Egyptian Government for the observation of the eclipse. A plan was agreed upon between the English, French, and Italian expeditions. Among the results, the most satisfactory are photographs of the corona, and a complete spectrum obtained by Schuster on Abney's plates. H and K are the most intense lines. A study of the red end of the spectrum of corona and protuberances was made by Tacchini. A comet near the sun was a striking object; it was photographed and observed by the naked eye. Bright lines were observed before and after totality at different heights by Lockyer, with intensities differing from Fraunhofer's lines; by Lockyer and Trépied an absolute determination was made of the place of the coronal line 1474 in Kirchhoff's scale; by Thollon and Trépied the absence of dark lines from the coronal spectrum was noted. Tacchini and Thollon, with very different dispersions, noted many bright lines in the violet. Thollon observed spectrum of the corona, and Schuster photographed it. The hydrogen and coronal line were studied in the grating spectroscope by Buisieux, and with direct vision prism by Thollon. Rings were observed in the grating by Lockyer, of the first, second, and third order. The continuous spectrum is fainter than 1878, stronger than 1871. An intensification of the absorption lines was observed in group B, at moon's edge, by Trépied and Thollon.—(Signed), LOCKYER, TACCHINI, and THOLLON."

When our cases are packed, we shall start directly home.

Captain Abney writes as follows to the *Photographic News*:—

I have received a brief telegram from Egypt regarding the Eclipse Expedition, and as it is in cipher I give the gist of the news. "Very successful all round. The whole of the spectrum with blue lines on a continuous background has been photographed. Prominences photographed with the prismatic camera (showing, of course, ring spectrum). Three photographs taken of the corona. A comet close to sun photographed with the prismatic and also ordinary cameras."

A telegram from the Alexandria correspondent of the *Daily News* states that Mr. Lockyer was to leave for London yesterday by the Peninsular and Oriental Company's steamer *Clyde*, while the other members of the Eclipse Expedition, with their instruments, were to leave next week.