

Hill. The direction of the striations is N. 30° W., and the elevation *about* 120 feet above high-water level.

“On the Thickness of the Bunter and Keuper Formations in the Country around Liverpool.” By G. H. Morton, F.G.S. The author gave the results of recent measurements of the Triassic strata around Liverpool, and exhibited a section of the Keuper Sandstone of Storeton and Wapping tunnel. The following shows the results that he had obtained:—Keuper formation—Red Marl, 100 feet; Upper Shales, or Waterstone, 75 feet; Upper Sandstone, red and yellow, 150 feet; Lower Shales, 50 feet; Lower Sandstone, yellow and white, with conglomerate base, 175 feet: Bunter formations—Upper soft yellow Sandstone, 100 feet; Upper soft red and variegated Sandstone, 300 feet; Pebble-beds, 350 feet; Lower soft red and variegated Sandstone, base yellow, 400 feet; total, 1700 feet. The Upper Shales may be above 75 feet; that is the apparent thickness. The Lower soft red and variegated Sandstone may possibly exceed 400 feet, for its actual base is not seen.

Obituary Notice.

THE REV. STEPHEN HISLOP,

OF NAGPUR.

We sincerely regret to see a paragraph in the newspapers announcing the decease of the Rev. Stephen Hislop, of Nagpur, Missionary of the Free Church of Scotland, who was drowned, near Nagpur, on the evening of September 4th of this year. He was not only a highly esteemed Christian minister and most amiable man, possessing great influence with the natives of Central India, but he was also a good geologist, hard-working, clear-sighted, and cautious.

Several years ago (1853) the Rev. S. Hislop and his then colleague, the Rev. R. Hunter, observed that the tablets of reddish sandstone that served the native school-children for “slates” bore fossil remains of plants; and tracing the stones to the quarry from which they were obtained, they discovered abundant vegetable fossils; and, collecting them with care, they sent a large series of specimens to the Geological Society of London, most of which have been since described (in 1861), by Sir C. Bunbury, in the Society’s Journal. They also made a careful examination of the geological characters of the vicinity of Nagpur, collected all the information they could from memoirs and notices by early labourers in Indian geology, and sent a large collection of Tertiary plant-remains, shells, insects, fishes, and bones, as well as rock-specimens and minerals, from the Nagpur territory to the Geological Society. Before long, in 1854, Messrs. Hislop and Hunter communicated to that Society a memoir, giving their views as to the geological structure of that country; and an abstract was published in the tenth volume of the Geol. Soc. Quart. Journ., and the memoir, in full, appeared in the eleventh volume, with a geological map of the western part of the Nagpur territory by the authors. Amendments of the map were subsequently communicated by Mr. Hislop; and in 1855 he sent home a short notice on the Umret Coalfield, lying north of Nagpur, and related by synchronism to the plant-beds of the latter district, as well as to the Burdwan and other coals of Bengal. Having come to England, in 1859, Mr. Hislop undertook the description of the Tertiary shells that he

and Mr. Hunter had formerly sent home, as well as others that he now brought, both from the vicinity of Nagpur and from Rajamandri; and the results of this labour of love appeared as a memoir in the 'Journal of the Geological Society,' vol. xvi., illustrated with six plates, chiefly from his own drawings. The fossil insects and Cypridæ of Nagpur were at the same time described by his friends A. Murray, F.R.S.E., and Rupert Jones, F.G.S.

Returning to India early in 1861, he wrote a succinct account of his views of the age and relationship of the red sandstones, coal, and other beds of Central India, on board the steamer, and communicated it to the Geological Society as a companion paper to Sir C. Bunbury's memoir on the fossil plants of Nagpur and Mangali, both appearing in the seventeenth volume of the Society's journal. Later in the same year an extract from one of his letters appeared in the same journal (vol. xviii.), on the age of the Kotah limestone, which lies on sandstone containing plant-remains, and equivalent to that near Nagpur.

Mr. Hislop had also communicated the results of his geological researches to the Bombay Asiatic Society's Journal; his latest memoir in that work, we believe, is in vol. vi.

The results of the geological labours of our deceased friend are of much importance in the natural history of Central India, and, indeed, throw light on the age of the coal-series of Bengal also. The great fern-leaves, stems of trees, and other plant-remains from near Nagpur; the plants and reptiles, fishes and *Estheriæ* from Mangali; the *Ceratodi* from Maledi; the fishes and other fossils from Kotah, as well as the manifold fossil forms from the Tertiary beds of the Deccan, all help, or will help, in indicating the relative ages of the Indian strata, and putting them in geological order, adding knowledge for the scientific geologist, and, thereby, guidance for the practical man.

The earnestness and clearness of his work, whether in the field or at home, were equalled by Mr. Hislop's desire to be just to fellow-labourers and earlier observers, and by his modest avoidance of notoriety as a geologist and naturalist. With his equally enlightened colleague he had gleaned much in the Nagpur field of natural history, and when, after the Indian rebellion (during which a friendly native warned him in time to save Nagpur from the threatened evil), he lost his colleague,—retiring with broken health,—he still gave all the leisure that he conscientiously could spare from his more important duties to collecting and observing, his periodical tours of inspection and instruction affording almost his only opportunities. A faithful native, Vira, served him as a collector, being occasionally sent to considerable distances for fossils. At one of Vira's last visits to Maledi (1863), he discovered a valuable series of reptilian bones and teeth.

As helps in studying the fossil forms of life in India, Mr. Hislop lost no opportunity of collecting and observing recent animals and plants of kinds similar to the extinct; and these he freely communicated to naturalists in India and England. Some small bivalve Crustacea collected by him from the ponds and streams of Nagpur have been described by Dr. Baird, and allied fossil forms from Nagpur and Mangali by Mr. Rupert Jones.

Taken away suddenly from his family, his friends, and his native church and schools, he will live in our memory as a beloved man, just and good, and as an acute observer, cautious and conscientious; not courting praise, nor even notice, but delighting in work and truth as a loving student of nature and a faithful servant of God.

T. R. J.