

## TRAVEL IN TIBET.

(1) IN a third volume Dr. Sven Hedin concludes the popular account of his Tibetan expedition of 1905-8, of which the main instalment was published four years ago. The present volume collects "all the material for which there was no room" in the previous two tomes. This includes a description of the explorer's journey northwards from the Mānasarowar Lake to the source of the Indus, which Dr. Hedin was the first European actually to penetrate, and of the well-known route from that lake along the Sutlej Valley back to Simla. Added to this are miscellaneous extracts from the books of previous writers and travellers on a variety of Tibetan topics, also a polemical defence of the author's discovery of the "Trans-Himalaya," a claim which has been disputed by a writer in the *Geographical Journal*, on the ground that the existence of that range was undoubtedly known in a general way over a generation ago. The breezy, rollicking narrative reflects the abounding enthusiasm of the author, and couched largely in dialogue form it reads almost like a romance, conveying at times the impression of a holiday romp rather than a rigorous journey achieved only by the painful toil of man and beast.

Of the scientific results, "which will shortly be issued," it is mentioned that the geological specimens (1170 in number) have enabled Prof. A. Hennig, of Lund, to say that the older sedimentary rocks of the Trans-Himalaya generally resemble those found on the northern flanks of the Himalayas near Gyantse and Lhasa in Central Tibet. They consist of Jurassic quartzites and phyllitic schists, with subordinate beds of slaty crystalline limestone, which is so strongly metamorphosed that if it did originally contain fossil remains these are quite destroyed. The series is penetrated by an intrusive formation which has

suffered metamorphosis by pressure, and therefore is older than the other. The eruptive formation is obviously part of that found in both the eastern and western Himalayas, and ascribed to the Eocene age, and consists in the Trans-Himalaya of intrusive granites, pegmatites, porphyries, &c., with vitrified surface lavas, basalts, and sub-aërial volcanic tuffa. It is noteworthy that the Brahma-putra Valley, which separates the Himalayas from

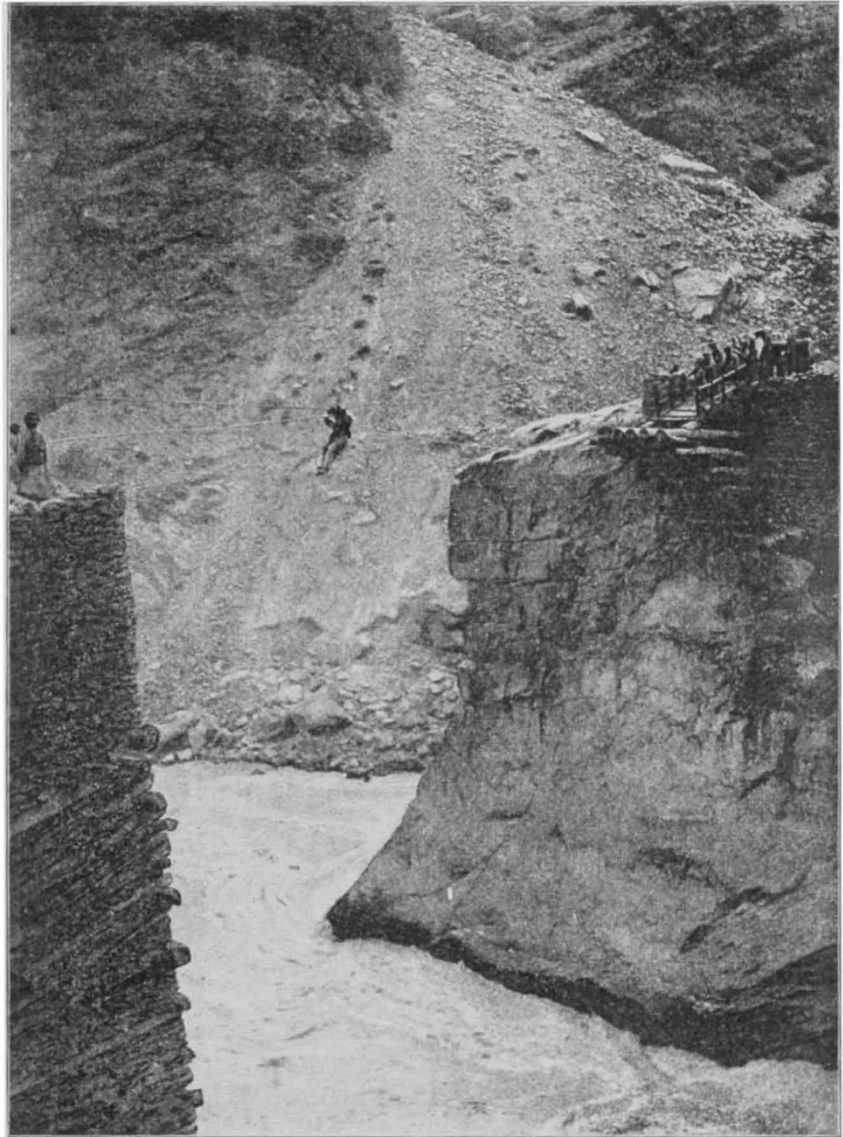


FIG. 1.—"I dangle between Heaven and the murderous Sutlej." From "Trans-Himalaya."

the Trans-Himalaya, must be considered as "a deeply excavated *erosion*-valley, and that faults do not play the leading part here which Oswald has assigned to them in his article based on Dr. Sven Hedin's preliminary communications."

Some mistakes are noticeable in respect to the legends and etymologies of the names of the great rivers rising in the vicinity of Mount Kailas, the Hindu Olympus, and require emendation. They

<sup>1</sup> (1) "Trans-Himalaya: Discoveries and Adventures in Tibet." By Sven Hedin. Vol. iii. Pp. xv+426+plates+maps. (London: Macmillan and Co., Ltd., 1913.) Price 15s. net.

(2) "The Land of the Blue Poppy: Travels of a Naturalist in Eastern Tibet." By F. Kingdon Ward. Pp. xii+283+xxvix+plates+5 maps. (Cambridge University Press, 1913.) Price 12s. net.



are perhaps due to the indirect process made use of in interrogating the Tibetans, of which the author states "I spoke Jagatai Turkish with my men, and Rabsang translated for me into Tibetan." Thus, we read "Mānasarowar means 'Mīnasa the most beautiful of lakes.' Manasa means 'created by the soul,' for the lake was created by the soul of Buddha." In this equation our author has evidently confused Brahmā with Buddha. For there is no authentic Buddhist legend associating Sakya Muni or his "soul" with the creation of this lake; indeed, that teacher as an elementary part of his doctrine denied the existence of a soul altogether. On the other hand, Brahma in Hindu myth is often linked with this lake, doubtless because "*Manasa*," meaning in Sanskrit "mental or spiritual," or "produced by the mind," is an epithet of Brahma, and Kailas, the Olympian abode of the other gods created by Brahmā, adjoins this lake. To say that *sarowar* means "the most beautiful of lakes" is neither literally correct nor appropriate. No photograph of that lake is given in the present volume, but no one who has seen this desolate lake, as the writer of this note has, could think of calling it "most beautiful." The word really means "the great lake," or literally "the best or sacred lake," but with no sense whatever of "beautiful." Similarly, the Brahmaputra, the source of which is known to the Tibetans as "the river of the horse's mouth," is, we are told, "so named in honour of Buddha's steed," though, as a fact, neither Buddha nor his steed are denoted in this name, nor is there any authentic legend of such relationship current amongst Tibetans. Again, the statement that "'Singi-kamba' [= 'the lion's mouth'] the Indus, refers rather to the tiger than the lion," is a mistake, as "*Sing*" means only "lion," and not tiger; and lions are not even yet extinct in the mid-Indus valley, where they are believed to have been formerly generally distributed. The volume is enriched by numerous excellent photographs and sketches, which are admirably reproduced, and add greatly to the attractiveness of the book.

(2) Under the title of the "Land of the Blue Poppy," Mr. Ward, son of the late Professor of Botany at Cambridge, describes his travels on the Chinese border of Eastern Tibet, as a collector of decorative plants for a firm of florists. In this work he spent several months in 1911 in the upper valleys of the Yangtse, Mekong, and Salwin, with his headquarters at the missionary station of "A-tun-tsi" (the A-tun-tzu of the maps), on the north-west frontier of Yunnan. As a result he gathered many rare plants, including more than twenty new species, amongst which was the *Meconopsis*, named after him, and giving the title to his book; also two new voles. Although he displays no very intimate acquaintance with the writings of previous travellers in those regions, his narrative is pleasantly written, and contains some observations of general interest.

The extensive cultivation of opium-poppy, in "solid fields" and otherwise, which he noticed in Western Yunnan, is of political importance at

the present time, when India is depriving herself of enormous revenue from opium solely in the interests of assisting China to stamp out the vice of opium-eating, and on the express condition that China herself ceased all cultivation of that drug. On one of the occasions on which Mr. Ward lost his way, and wandered alone for several days in the wilds, he ate a quantity of rhododendron corollas for their nectar, and was surprised to find them poisonous—forgetful of the toxic Pontine honey described by Xenophon, and usually ascribed to rhododendron or azalea. With the exception of *R. arboreum* the Himalayan species are generally regarded as poisonous.

Of the Tibetan character and hospitality he

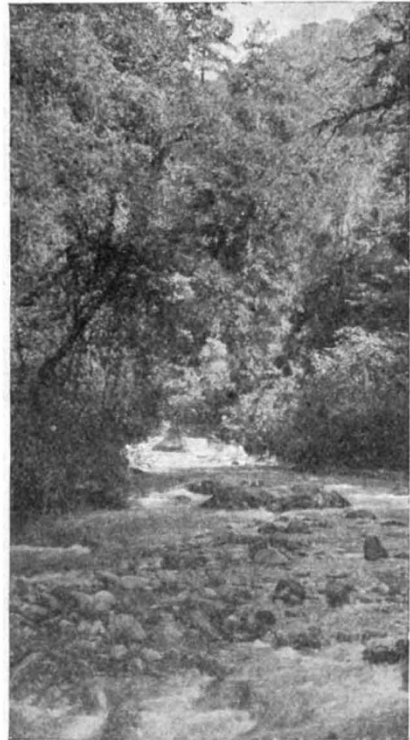


FIG. 2.—The Salween Forests in Summer, Mekong-Salween Divide, 8,000 feet. From "The Land of the Blue Poppy."

speaks with much enthusiasm. In the dress of the Tibetan men he remarks as "very curious a section of an elephant's tusk threaded on to the queue"—this doubtless is the thumb-ring of the ancient bowmen, whose dress the modern Tibetan dandy imitates, and binds the ring on his coiled pigtail when not worn on the thumb on ceremonial occasions. Other border tribes of much ethnological interest amongst which he passed were Lissu, Lutzu, Minchia, "Lama," Pe-tzu, Chu-tzu, and Mosso. The last-named is of especial interest as possessing an elementary hieroglyphic writing, somewhat like that of the Hittite, the origin and development of which is still unsolved, though specimens have been published by Captain Gill, Prince Henri, and Mr. Forrest. Yet our author makes no reference to this matter. He



encountered several hot-springs, but unfortunately took no record of the temperature, nor indicated their location exactly, as a guide to future travellers desirous of making precise scientific observations.

The oft-discussed question of the geological causation of that remarkable wrinkling of the surface of south-east Tibet into a series of parallel valleys, through which the great rivers rush southwards, is not advanced nearer to a solution by the vague theories indulged in in the last chapter. These hypotheses, which are not even new, are not based on examination of the actual rocks, and are uninformed by the many facts collected by the experts of the Indian Geological Survey and others. The great river of Central



FIG. 3.—The Salween in the arid region, below La-Kor-ah. From "The Land of the Blue Poppy."

Tibet is not usually spelt "Bramapootra" nowadays. Notwithstanding its scientific deficiencies as "the journal of a naturalist," the book gives a lively popular account of adventurous travel off the beaten tracks, and the numerous photographs convey a good idea of the country traversed.

**THE OCCURRENCE OF OIL SHALE AMONG THE JURASSIC ROCKS OF RAASAY AND SKYE.<sup>1</sup>**

THE Geological Survey of Great Britain in the course of their investigations in the Isle of Skye have discovered an oil-shale which may ultimately prove of economic importance, and as

<sup>1</sup> Communicated by the Director of the Geological Survey of Great Britain.

notices of the discovery have appeared in the daily Press, it is desirable that the facts so far as they are known to the Geological Survey should be placed on record without further delay. The discovery was made by Dr. G. W. Lee, who has written the following account:—

The stratigraphical position of the shale is at the very base of the Great Estuarine Series, a group which succeeded strata containing a fauna of Garantiana age (high in the Inferior Oolite),

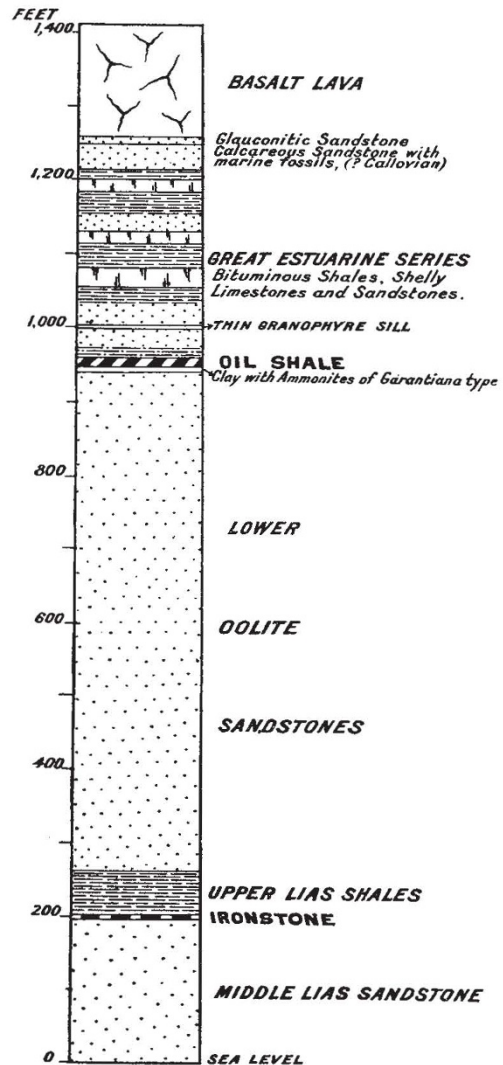


Diagram section illustrating the sequence of the Jurassic rocks below Dün Caan, Isle of Raasay.

and is overlain by Kellaways Rock. The shale itself yields fossils. They include Entomostraca, a flattened lamellibranch, and plant remains. Since it rests immediately on the marine Garantiana clay, it follows that the incoming of estuarine conditions must have been a sudden one.

The shale is brownish in colour, fine in grain, gives a wooden sound under the hammer, and has a brown streak. It is tough and resists disintegration by weathering, a character which