

## CHAPTER XXXII.

### DREW AND OTHERS.

FREDERIC DREW undertook his important journeys before FORSYTH, but his work was published in 1875, and as he sometimes makes reference to the results of Forsyth's mission, it may be well to consider him after that mission.

In Drew's opinion the Eastern Kwen-lun Mountains form the northern boundary of the table-land of the Kwen-lun plains and Lingzi-tang, both separated from each other by a range of hills. The plains are 16,000 and 17,000 feet high, and the surrounding mountains 20,000 or 21,000 feet.<sup>1</sup> West of the high plateaux is »a great range of mountains«, which is called Mus-tagh and Kara-korum, the former name belonging to the western, the latter to the eastern portion of the system. The Mus-tagh—Kara-korum, however, consist of great mountain ridges.

Drew made some very important observations on climatic changes of the same kind as GODWIN-AUSTEN also had made, and which have been carried so far in our days. At Charasa in the Nubra valley he found the hard shale, graduating into a crystalline rock, to be rounded, smoothed, and even polished, like a *roche moutonnée*. At several places grooves and scratches were seen, denoting the movement over it of a glacier. Such marks were seen up to more than 100 feet above the alluvium. The whole valley must once have been filled by a gigantic glacier. At Panimik he saw 200 feet high hills ice-moulded and striated all over. He found marks of ice-moulding even up to 700 feet above the bottom of the valley, and he thinks it possible that such marks could be followed still higher up the hill sides.

On the 14,500 feet high ridge behind Charasa he found granite blocks which can only have been transported by glacier ice, and that glacier must have filled the valley to 4,000 or 4,500 feet. Such glaciers must have reached down to Shayok and perhaps a long way down in its valley.

Drew visited the western part of Panggong-tso, where he mentions GODWIN-AUSTEN, the Great Trigonometrical Survey, and H. STRACHEY as preceding authorities. He made several interesting observations on the lake, the water of which, as he

<sup>1</sup> *The Jummoo and Kashmir Territories. A geographical Account.* London 1875, p. 260 et seq.