

been bound together to the best of my ability. I am by no means yet satisfied with the result, and one of my first labours, when I have finished this report, will be the preparation of a map on a larger scale of the Pámir regions, when I doubt not that further considerations will induce some changes in the map as it at present stands.

Most of the details to the south of the map, with the exception of those portions north of Leh that have been traversed by members of the Mission, have been taken from the last edition of Colonel Walker's Map of Turkestan, but all the positions in the latter have been shifted three minutes to the west in longitude in order to allow for the most recently determined value of the longitude of Madras, *viz.*, $80^{\circ} 14' 19.5''$ East of Greenwich.

In the portion of country traversed by Members and Attachés of the Mission use has been made of all the material collected by them. The maps of Messrs. Shaw and Hayward have also been called into requisition.

The reductions of the astronomical observations, and the computations of heights, have all been made in the Office of Colonel Walker, R.E., the Superintendent of the Great Trigonometrical Survey, in whose Office also, the map compiled by myself has been drawn and photozinographed. A large amount of work has been got through in a moderate space of time, and I am deeply indebted to Colonel Walker for the facilities he has given, and to Messrs. Hennessey, Keelan, and Wood in the Computing Office, and Messrs. Atkinson and Sindon in the Drawing Office for the assistance afforded by them in their several departments.

Meteorological Observations.

Whilst on the march I always took readings of thermometers, and barometer or boiling point thermometer, at our camps, and on high passes, and at other places of interest. These were taken chiefly for the purpose of determining the height above sea level of the stations of observation and where used for this object are shown in Appendix C. Where they are not required for this I have not published them, as isolated observations at different places, taken under constantly varying conditions, are not of much use to the meteorologist.

While I was at Leh Mr. R. B. Shaw, the British Joint Commissioner, commenced a regular meteorological registry, which has since been continued under the superintendence of Captain Molloy, the recorder being the Native Doctor attached to the dispensary there. At my special request Mr. Shaw kindly took extra barometrical observations at the hours of 9 A.M. and noon, whilst I was on the journey to, and during my residence and travels in, Eastern Turkestan, these being considered the most likely hours at which I should myself be able to take barometrical observations for height on passes and in camp. I have thus throughout the whole of my absence from Leh got almost simultaneous readings at the fixed Observatory of Leh, whose height has been accurately determined by the Great Trigonometrical Survey. This circumstance combined with the use by myself of mercurial barometers, enable me to compute the height of the various passes and halting-places with an amount of accuracy superior to anything yet attainable. It is hardly necessary to add that I have made at Leh, both on the outward and return journeys, numerous comparisons between my own instruments and those in use at the Leh Observatory, and that my own were previously compared with the standards at Dehra Dún (and some of them at Kew).

While on the march to Yárkand I succeeded in taking numerous sets of observations with a Hodgkinson's actinometer. I took these at the special request of Mr. J. B. N. Hennessey of the Great Trigonometrical Survey, who supplied me with an instrument belonging to the Royal Society. They were chiefly taken at considerable altitudes, but owing to cloudy weather the Chang La (Pass), 17,600 feet above sea level, was the only very high point at which I was able to take sets extending over a period of several hours in the middle of the day. These actinometric observations have been handed over to Mr. Hennessey (now in England) for reduction, and they ought to give very interesting results, which will probably be communicated to the Royal Society.