

permanent office in England. On her part, Great Britain will cordially welcome the responsibilities entailed by this honourable outcome of her initiative in calling the conference of London.

The sometimes severe labours of the Conference of Paris were lightened by the traditional splendid hospitality of the French Government, of the City of Paris, and of many unofficial hosts. The delegates had the honour of being received by the President of the Republic ; they were entertained magnificently at the Opera, and at a final banquet. The arrangements for their comfort made by the staff of the *Service Géographique* lacked nothing which forethought could supply ; and the generous breadth of view which distinguished the conduct of General Bourgeois in the presidential chair was happily reflected in the cordial sympathy established between the representatives of France and of all other nations.

THE ALAI-PAMIRS EXPEDITION OF THE GERMAN AND AUSTRIAN ALPENVEREIN.

MR. W. R. RICKMERS, the leader of this expedition, has just returned home, thus closing a successful journey under the auspices of the German and Austrian Alpine Association, which supplied one-half of the funds ; the total expenditure was £1350, for a party of eight people and a journey of seven months, including outfit. The members of the expedition were Dr. W. Deimler (astronomy and topography), Prof. H. v. Ficker (meteorology), Dr. R. v. Klebelsberg (geology), Dr. R. Kaltenbach (natural history), Frau Kaltenbach (portrait painting), Herr E. Kuhlmann and Mrs. Rickmers. From the account of the earlier part of the expedition given in the *Journal* for December (p. 570), it will be remembered that the explorers had reached a point a little above Garm, in the valley of the Vaksh or Surkhab (in Karateghin), whence an ascent of Sagunaki and other mountains of the Peter the Great range had been made.* The party afterwards proceeded to Tupchek, a little higher up the same valley, making this also a base camp for the thorough examination of the neighbouring mountains, with their glaciers and moraines. Ascents were made up to 5400 metres (17,717 feet), as well as side excursions up the Muksu valley and down to the Surkhab junction, where vast moraines were examined. The further march led by Little Tupchek and across the Gardani Kaftar pass to Kalai-Lojirk, in the valley of the Khingob, on the south side of the Peter the Great range. After various excursions and glacier studies the expedition went by Vanj to the valley of the Panj (upper Oxus), returning to Kalai-Lojirk by another route. The party then divided, one half returning to Samarkand by way of the lower

* The height of Sagunaki is now given by Mr. Rickmers as 4900 metres (16,076 feet), instead of 5100 metres.

Khingob, Diushambe, etc. ; the other going south-west by Muminabad to Kabadian, and continuing by the usual route *viâ* the Irongate to Bokhara city.*

The plains and valleys of this region are well known, though still offering many curious problems. The Russian 5-verst map (1 : 142,000) is good, as far as situation and communications are concerned, but the high mountain topography is practically (and probably intentionally, for want of time) neglected. In this respect the expedition found an extensive field of action, the main result being a photogrammetric survey of the glaciated ranges between the Surkhab and Khingob rivers: A detailed photographic survey of the whole of the Borolmas moraines (old and recent) was also made, while about thirty full-plate panoramas will show the morphological and orographical detail of various landscapes along the route. Many new glaciers were discovered, and an entrance effected into the mysterious Darai-gharmo or valley of the upper Khingob, where the travellers ascended a mighty glacier close up to the foot of Mount Sandal. The heights of peaks west of Altin-mazar were found to have been overestimated by previous explorers, but Mount Sandal (7000 metres, or 22,960 feet, by triangulation from a base determined by boiling point and by reference to previous points) and its neighbours made good their earlier claims. Over thirty summits were climbed, ranging from 2200 to 5200 metres (7220 to 17,060 feet), chiefly for topographical purposes. Attempts at fixing longitude by observations may be expected to give correct results after final calculation.

The geological results are rich and manifold. Among items of general interest may be mentioned an important fault which coincides with the Surkhab valley along a great part of its length, and which evidently has some connection with the earthquake region between Andizhan and Karatagh. Many valuable profiles were obtained. As to glaciology, one may confidently state that the expedition has obtained one of the most instructive additions, of latter times, to general and climatic glaciology. An unexpectedly low level of former ice-periods was established beyond a doubt. The larger glaciers are characterized by long "dead" snouts, and the old moraines (mostly rather recent, *i.e.* later than the Würm period) are very beautiful.

Among other items may be mentioned the discovery of a cave (known to the natives) with historic, archæological, and possibly prehistoric remains. Mountain insects (chiefly butterflies), ibex horns, etc., were collected, and the occurrence of a kind of markhor was established on the right bank of the Oxus. A series of colour photographs were taken by Herr Kuhlmann (who died a fortnight after his return home from a dangerous, and, it appears, undefinable disease, a complication of jaundice and typhoid with malarial symptoms). Many types of men and especially

* The route may be followed approximately in Mr. Rickmers' map, *Journal*, vol. 30, p. 468.

women were drawn by the painter. Meteorological results were as good as the short and broken records of such a journey will allow, but the skill of such a trained observer as Prof. Ficker will admit of many interesting conclusions.

The expedition was devoid of sensational incident or exciting discoveries, but produced a rich harvest of scientific data. The Russian Government and the Amir of Bokhara gave most hospitable assistance, and the leader is also indebted to the Grand Duke of Oldenburg and Prince Oldenburg for most valuable introductions.

NOTE ON THE EXPLORATION OF THE TSANG-PO.

By Captain F. M. BAILEY.

[CAPTAIN BAILEY sends us the following short account of his recent journey with Captain Morshead to explore the hitherto unknown portion of the Tsang-po where it breaks through the main range of the Himalayas. He says nothing here of the route by which he reached Rinchenpung (a village with a monastery visited by Kinthup and shown on the map accompanying his report), but from his former letter quoted in the *Journal* for November last (vol. 42, p. 491), it appears that he and his companion had crossed the mountains from the upper valley of the Dibong. Rinchenpung is considerably higher up the Dihong valley than the furthest point reached during the Abor expedition (roughly 29° N.; see Mr. Bentinck's map in *Journal*, vol. 41, p. 200), but it is known that surveys have since been continued by various parties, and the monastery may have been reached by some of these. The accompanying map has been compiled from the scanty material hitherto existing, in order to help to an understanding of Captain Bailey's text, but it must be regarded as merely provisional. Some of the places named have appeared in no previous map, though several were mentioned by Kinthup, whose route it should now be possible to follow with more precision than hitherto. One result of the recent explorations is to show that the confluence of the Nagong (or Po) Chu (the source of which was touched by A-K during his journey of 1879-82) is much further north than was once supposed. It will be noticed that about 45 miles of the course of the Tsang-po remain unvisited, but the result of Captain Bailey's inquiries seems to leave little doubt as to its general character even here. Captain Bailey writes:]

We followed the Tsang-po valley from Rinchenpung up to the village of Lagong, but no altitude in the river-bed was obtained higher up-stream than the confluence of the Chimdro Chu with the Tsang-po, a point some 40 miles by road below Lagong; the altitude of the river by hypsometer at this point was 3070 feet. At Lagong we left the Tsang-po, and, crossing a pass, the Sula, entered the valley of the Nagong Chu, here called the