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## NOTE ON THE R.G.S. MAP OF TIBET.\*

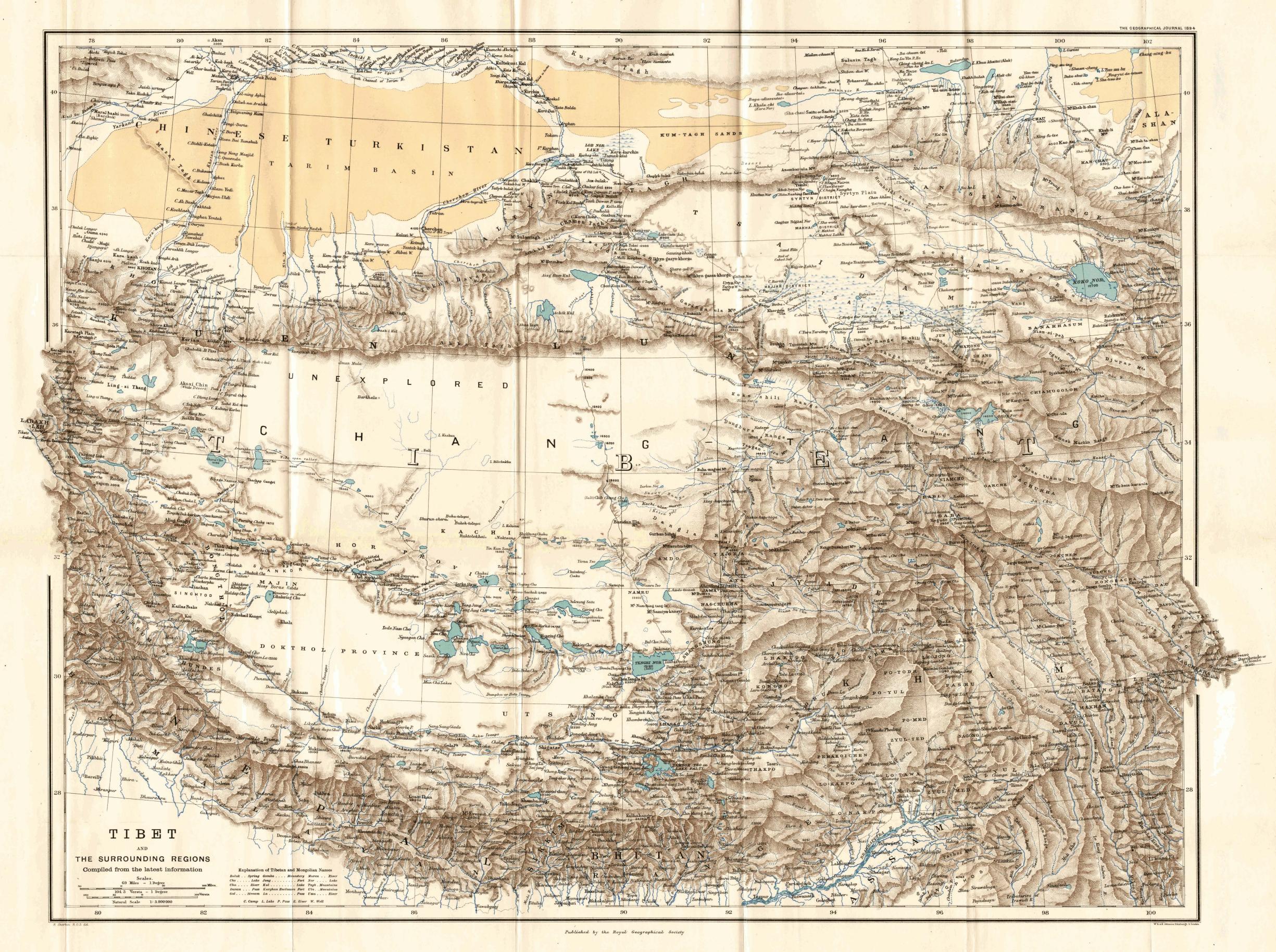
By GENERAL J. T. WALKER, R.A., C.B., F.R.S., Late Surveyor-General of India.

The map of Tibet which is now published has been under compilation in the office of the Geographical Society for several years. Portions have been published from time to time on various scales, to illustrate the reports of various travellers in this region which have been sent to the Society and read at the evening meetings. The publication of the map as a whole has been frequently delayed, in order to permit of the incorporation of new work, and the correction of old work as fresh materials became available from time to time. The map now contains all the latest information, which the scale ( $\frac{1}{38000000}$ , or 60 miles = 1 inch) is sufficiently large to show.

The materials on which it is based have been derived from the following sources:—

On the south, the information has been wholly taken from the Trans-Himalayan operations of the native explorers attached to the Indian Survey, notably Pundits Nain Singh and Krishna, whose explorations were published by the Society shortly after they were made. Nain Singh explored the Tibetan sources of the Indus, and a considerable portion of the upper course of the Yaro Tsanpo, or Brahmaputra river, in the years 1865-67, and in 1874-75 he explored a line of country stretching from west to east about 2° north of his previous work, from the eastern frontier of Ladakh to the Tengri-Nor Lake, and thence southwards to Lhasa. He eventually returned to India by a route over the eastern Himalayas, and through Bhotan into Assam.

Krishna, in the years 1879-82, took a line of exploration from Lhasa northwards into the Tsaidam plateau, along a route part of which had been taken by the Russian explorer, Prjevalski, in his attempts to reach Lhasa from the north; he then struck northwards to Sachu, or Saitu, in the plains of Mongolia to the north-east of Lob Nor. Returning to Tsaidam, he made his way through Eastern Tibet to the town of Darchendo, or Ta Chien Lu, which is situated on the high-road between Lhasa and Peking, and on the border-line between Tibet and China. He then turned westwards back to India, and, travelling vid Batang, reached Sama in the Zayul valley of Tibet, not far from eastern Assam; but, being unable to pass through the wild tribes inhabiting the



intervening hills, he took a very circuitous route, northwards and west-wards viá Dongsar, Jithog, and Arig, to the vicinity of Lhasa, and then turned southwards and crossed the Himalayas into India. Krishna's route up to Tsaidam and thence down to Ta Chien Lu and Sama, and up again to the vicinity of Lhasa, has been adopted throughout; but for the country from Tsaidam northwards up to Sachu, the work of Messrs. Cary and Dalgleish has been taken in preference.

All the details to the west of the meridian of 82° have been taken from the maps of the Indian Survey.

The Khotan-Tarim river down to Chigalik and Lob Nor, the route from Chigalik over the Altyn Tagh and Chamen Tagh ranges to Bagh Tokai, and thence down to the Naichi valley in southern Tsaidam, and finally the route up to Sachu in Mongolia, are taken from the maps of Messrs. Cary and Dalgleish.

The Kuen Lun range between the meridians of 80° and 91°, and its lakes and northern spurs, have been taken from a Russian map by Pevtsof.

The Kuen Lun range between the meridians of 91° and 101°, together with some of the country to the south, and the Nan-Shan range of Mongolia to the north, have been taken from the last edition of Prjevalski's travels, published in St. Petersburg in 1888.

The route from Lob Nor to Sachu, and thence over the Ping Davan and Yangi Davan pass, and on to Lake Koko Nor across the plateau which lies to the south of the Nan Shan range, has been taken from the recently published map of Mr. St. George Littledale (see Geographical Journal, vol. iii. page 540).

A route from west to east across the Chang-tang of Tibet, lying to the north of Nain Singh's route of 1874-75, and stretching from northeastern Ladakh into the region to the north of Lake Tengri Nor, has been taken from the map of Captain Bower's Survey in 1891.

A route between the meridians of 89° and 91°, from the Lob Nor country down to the neighbourhood of the Tengri Nor, has been taken from the map published by M. Bonvalot and Prince Henri of Orleans.

Information has been obtained from Mr. Rockhill's two journeys into Tibet from points on the north-east in the neighbourhood of Lake Koko Nor: the first was by way of the lakes Charing Nor and Oring Nor, near the sources of the Hoang-Ho river, to Jyekundo, and thence to Ta-Chien-Lu; the second was through Southern Tsaidam and over the Kokoshili and Dangla ranges down south to latitude 32° by longitude 90° 20'.

The country between the parallels of 31° and 32°, and the meridians of 90° to 98°, and thence on to Batang, has been compiled from the surveys of Captain Bower and Mr. Rockhill, with a few additions from the map published by M. Bonvalot and Prince Henri of Orleans.

A considerable portion of the very elevated region of Chang-tang,

which lies between the Kuen-Lun range and the route taken by Captain Bower, is shown as a blank. Russian maps show ranges of hills on this tract which may possibly exist, but are as yet purely conjectural. Thus a blank, with the word "unexplored" printed across it, has been adopted as at present preferable.

As regards the values of the co-ordinates which have been adopted for the construction of this map, to the south and west they have all been derived from the Indian Survey. Elsewhere several latitudes have been determined astronomically by various explorers, which are sufficiently accurate for the purposes of a map on a small scale. The longitudes are less reliable, having, without exception, been deduced from the traverses of the routes.

The longitude of Sachu or Saitu in Mongolia may be taken as an obligatory point. The value adopted for this map is 94° 54′ east of Greenwich, which is the revised value given by Prjevalski in the map accompanying the account of his fourth exploration into Central Asia. Other values are as follows:—

Prjevalski, by his second and third explorations	•••	•••	94° 26′	
Krishna, after correction for magnetic variation	•••	•••	94° 23′	
Cary and Dalgleish		•••	•••	94° 48′
Littledale	•••	•••	•••	94° 49′
Kreitner, with Count Szécheny's expedition	•••	•••	•••	94° 58′

The longitude of Darchendo or Ta Chien Lu, on the extreme east, may be taken as another obligatory point. The adopted value is 102° 12'.

Krishna's w	ork giv	768	•••	•••	•••	•••	•••		102° 15′
Kreitner's	•••	•••	•••	•••	•••	•••	•••	•••	102° 5'
Baber's	•••	•••	•••	•••	•••	•••	•••	•••	102° 18′

## THE RECENT TERRITORIAL ARRANGEMENTS IN AFRICA.

## By E. G. RAVENSTEIN.

WE present the readers of the Journal with two sketch-maps designed to illustrate the territorial changes in Africa which have been brought about by the agreements concluded on May 3 at Rome and on May 12 at Brussels. The agreement with King Leopold, as sovereign of the "Independent Congo State," is interesting on account of the novel political "leaseholds" which it creates. It deals with territories covering 209,350 square miles, of which 175,530 square miles are leased to King Leopold, whilst 16,910 are assigned to Great Britain.

In the extreme south the Congo State definitely withdraws its pretensions to 14,000 square miles of territory lying between Lake Bangweolo and the Luapula. The line separating British Central Africa from the Congo State is to be drawn from Cape Akalunga