hydrographical network is very imperfectly known, especially in the uninhabited hilly tracts.@@1

Like other plateaus, the great plateau of the centre of Asia, stretching from the Himalayas to Bering Strait,@@2 has on its surface a number of gentle eminences *(angehäufte Gebirge* of K. Ritter), which, although reaching great absolute altitudes, are relatively low.@@3 These heights for the most part follow a north-easterly direc­tion in Siberia. On the margins of the plateau there are several gaps or indentations, which can best be likened to gigantic trenches, like railway cuttings, as with an insensible gradient they climb to a higher level. These trenches have for successive geological periods been the drainage valleys of immense lakes (probably also of glaciers) which formerly extended over the plateau or fiords of the seas which surrounded it. And it is along these trenches that the principal commercial routes have been made for reaching the higher levels of the plateau itself. In the plateau there arc in reality two terraces— a higher and a lower, both very well defined in Transbaikalia and in Mongolia. The Yablonoi range and its south-western continuation the Kentei are border-ridges of the upper terrace. Both rise very gently above it, but have steep slopes towards the lower terrace, which is occupied by the Nerchinsk steppes in Transbaikalia and by the great desert of Gobi in Mongolia (2000 to 2500 ft. above the sea). They rise 5000 to 7000 ft. above the sea; the peak of Sokhondo in Transbaikalia (111° E.) reaches nearly 8050 ft. Several low chains of mountains have their base on the lower terrace and run from south-west to north-east; they are known as the Nerchinsk Moun­tains in Transbaikalia, and their continuations reach the northern parts of the Gobi.@@4

The great plateau is fringed on the north-west by a series of lofty border-ranges, which have their southern base on the plateau and their northern at a much lower level. They may be traced from the Tian-shan to the Arctic Circle, and have an east-north-easterly direction in lower latitudes and a north-easterly direction farther north. The Alai range of the Pamir, continued by the Kokshaltau range and the Khan-tengri group of the Tian-shan, and the Sailughem range of the Altai, which is continued in the unnamed border-range of West Sayan (between the Bei-kem and the Us), belong to this category. There are, however, among these border-ranges several breaches of continuity—broad depressions or trenches leading from Lake Balkash and Lake Zaisan to the upper parts of the plateau. On the other hand, there are on the western outskirts of the plateau a few mountain chains which take a direction at right angles to the above (that is, from north-west to south-east), and parallel to the great line of upheavals in south-west Asia. The Tarbagatai Moun­tains, on the borders of Siberia, as well as several chains in Turkestan, are instances. The border-ridges of the Alai Mountains, the Khantengri group, the Sailughem range and the West Sayan contain the highest peaks of their respective regions. Beyond 102° E. the configuration is complicated by the great lateral indentation of Lake Baikal. But around and north-east of this lake the same well- marked ranges fringe the plateau and turn their steep north-western slope towards the valleys of the Irkut, the Barguzin, the Muya and the Chara, while their southern base lies on the plateaus of the Selenga (nearly 4000 ft. high) and the Vitim. The peaks of the Sailughem range reach 9000 to 11,000 ft. above the sea, those of West Sayan about 10,000. In East Sayan is Munku-Sardyk, a peak 11,450 ft. high, together with many others from 8000 to 9000 ft. Farther east, on the southern shore of Lake Baikal, Khamar-daban rises to 6900 ft., and the bald dome-shaped summits of the Barguzin and southern Muya Mountains attain elevations of 6000 to 7000 ft. above sea-level. The orography of the Aldan region is little known; but travellers who journey from the Aldan (tributary of the Lena) to the Amur or to the Sea of Okhotsk have to cross the same plateau and its border-range. The former becomes narrower and barely attains an average altitude of 3200 ft.

A typical feature of the north-eastern border of the high plateau is a succession of broad longitudinal@@5 valleys along its outer base,

shut in on the outer side by rugged mountains having a very steep slope towards them. Formerly filled with alpine lakes, these valleys are now sheeted with flat alluvial soil and occupied by human settlements, and are drained by rivers which flow along them before they make their way to the north through narrow gorges pierced in the mountain-walls. This conformation is seen in the valley of the Us in West Sayan, in that of the upper Oka and. Irkut in East Sayan, in the valley of the Barguzin, the upper Tsipa, the Muya and the Chara, at the foot of the Vitim plateau, as also, probably, in the Aldan.@@6 The chains of mountains which border these valleys on the north-west contain the wildest parts of Siberia. They are named the Usinsk Mountains in West Sayan and the Tunka Alps in East Sayan ; the latter, pierced by the Angara at Irkutsk, are in all probability continued north-east in the Baikal Mountains, which stretch from Irkutsk to Olkhon Island and the Svyatoi Nos peninsula of Lake Baikal, thus dividing the lake into two parts.@@7

An alpine region, 100 to 150 m. in breadth, fringes the plateau on the N. W., outside of the ranges just mentioned. This constitutes what is called in East Siberia the *taiga:* it consists of separate chains of mountains whose peaks rise 4800 to 6500 ft. above the sea, beyond the upper limits of forest vegetation; while the narrow valleys afford difficult means of communication, their floors being thickly strewn with boulders, or else swampy. The whole is clothed with impenetrable forest. The orography of this alpine region is very imperfectly known; but the chains have a predominant direction from south-west to north-east. They are described under different names in Siberia— the Altai Mountains in West Siberia, the Kuznetskiy Ala-tau and the Us and Oya Mountains in West Sayan, the Nizhne-Udinsk *taiga* or gold-mine district, several chains pierced by the Oka river, the Kitoi Alps in East Sayan, the mountains of the upper Lena and Kirenga, the Olekminsk gold-mine district, and the unnamed mountains which project\* north-east between the Lena and the Aldan.

Outside of these alpine regions comes a broad belt of elevated plains, ranging between 1200 and 1700 ft. above the sea. These plains, which are entered by the great Siberian highway about Tomsk and extend south-west to the Altai Moun­tains, are for the most part fertile, though sometimes dry, and are rapidly being covered with the villages of the Russian immigrants. About Kansk in East Siberia they penetrate in the form of a broad gulf south-eastwards as far as Irkutsk. Those on the upper Lena, having a somewhat greater altitude and being situated in higher latitudes, are almost wholly unfitted for agriculture. The north-western border of these elevated plains cannot be deter­mined with exactitude. In the region between Viluisk (on the Vilui) and Yeniseisk a broad belt of alpine tracts, reaching their greatest elevation in the northern Yeniseisk *taiga* (between the Upper Tunguzka and the Podkamennaya Tunguzka) and continued to the south-west in lower upheavals, separates the elevated plains from the lowlands which extend towards the Arctic Ocean. In West Siberia these high plains seem to form a narrower belt towards Barnaul and Semipalatinsk, and are bordered by the Aral-Caspian depression.

Farther to the north-west, beyond these high plains, comes a broad belt of lowlands. This vast tract, which is only a few dozen feet above the sea, and most probably was covered by the sea during the Post-Pliocene period, stretches from the Aral-Caspian depression to the lowlands of the Tobol, Irtysh and Ob, and thence towards the lower parts of the Yenisei and the Lena. Only a few detached mountain ranges, like the Byrranga on the Taymyr peninsula, the Syverma Mountains, the Verkhoyansk and the Kharaulakh (E. of the Lena) ranges, diversify these monotonous lowlands, which are covered with a thick sheet of black earth in the south and assume the character of barren tundras in the north.

The south-eastern slope of the great plateau of Asia cannot properly be reckoned to Siberia, although parts of the province of Amur and the Maritime Province are situated on it; they have quite a different character, climate and vege­tation, and ought properly to be reckoned to the Man­churian region. To the east of the Yablonoi border-range lies the lower terrace of the high plateau, reaching 2000 to 2500 ft. in Transbaikalia and extending farther south-west through the Gobi to East Turkestan. The south-eastern edge of this lower terrace is fringed by a massive border-range—the Khingan— which runs in a north-easterly direction from the Great Wall of China to the sources of the Nonni-ula.

A narrow alpine region (40 to 50 m.), consisting of a series of short secondary chains parallel to the border-range, fringes this latter on its eastern face. Two such folds may be distinguished, correspond­ing on a smaller scale to the belt of alpine tracts which fringe the plateau on the north-west. The resemblance is further sustained by a broad belt of elevated plains, ranging from 1200 to 1700 ft., which

@@@1 The wide area between the middle Lena and the Amur, as well as the hilly tracts west of Lake Baikal, and the Yeniseisk mining region are in this condition.

@@@2 The great plateau of North America, also turning its narrower point towards Bering Strait, naturally suggests the idea that there was a period in the history of our planet when the continents turned their narrow extremities towards the northern pole, as now they turn them towards the southern.

@@@3 See “General Sketch of the Orography of Siberia,” with map and “ Sketch of the Orography of Minusinsk, &c.,” by Prince P. A. Kropotkin, in *Mem. Russ. Geogr. Soc.,* General Geography (vol. v., 1875)∙

@@@4The lower terrace is obviously continued in the Tarim basin of East Turkestan; but in the present state of our knowledge we cannot determine whether the further continuations of the border­ridge of the higher terrace (Yablonoi, Kentei) must be looked for in the Great Altai or in some other range situated farther south. There may be also a breach of continuity in some depression towards Barkul.

@@@5 The word “longitudinal” is here used in an orographical, not a geological sense. These valleys are not synclinal foldings of rocks; they seem to be erosion-valleys.

@@@6 The upper Bukhtarma valley in the Sailughem range of the Altai system appears to belong to the same type.

@@@7 The deep fissure occupied by Lake Baikal would thus appear to consist of two longitudinal valleys connected together by the passage between Olkhon and Svyatoi Nos.