accompany the eastern edge of the plateau. The eastern Gobi, the occasionally fertile and occasionally sandy plains between the Nonni and the Sungari, and the rich plains of the Bureya and Silinji in the Amur province belong to this belt, 400 m. in breadth, the surface of which is diversified by the low hills of llkhuri-alin, Khuluñ and Turana. These high plains are bordered on the south-east by a picturesque chain—the Bureya Mountains, which are to be identified with the Little Khingan. It extends, with unaltered character, from Mukden and Kirin to Ulban Bay in the Sea of Okhotsk (close by the Shantar Islands), its peaks clothed from top to bottom with luxuriant forest vegetation, ascending 4500 to 6000 ft. A lowland belt about 200 m. broad runs in the same direction along the outer margin of the above chain. The lower Amur occupies the northern part of this broad valley. These lowlands, dotted over with numberless marshes and lakes, seem to have emerged from the sea at a quite recent geological period; the rivers that meander across them are still excavating their valleys.

Volcanic formations, so far as is known, occur chiefly along the north-western border-range of the great plateau. Ejections of basaltic lava have been observed on the southern slope of this range, extending over wide areas on the plateau itself, over a stretch of more than 600 m.—namely, in East Sayan about Lake Kosso-gol and in the valley of the Tunka (river Irkut), in the vicinity of Selenginsk, and widely distributed on the Vitim plateau (rivers Vitim and Tsipa). Deposits of trap stretch for more than 1200 m. along the Tunguzka; they appear also in the Noril Mountains on the Yenisei, whence they extend towards the Arctic Ocean. Basaltic lavas are reported to have been found in the Aldan region. On the Pacific slope extinct volcanoes (mentioned in Chinese annals) have been reported in the llkhuri-alin mountains in northern Manchuria.

The mineral wealth of Siberia is considerable. Gold-dust is found in almost all the alpine regions fringing the great plateau. The principal gold-mining regions in these tracts are the Altai, the upper (or Nizhne-Udinsk) and the lower (or Yeniseisk) *taigas,* and the Olekma region. Gold is found on the high plateau in the basin of the upper Vitim, on the lower plateau in the Nerchinsk district, and on the upper tributaries of the Amur (especially the Oldoi) and the Zeya, in the north-east continuation of the Nerchinsk Mountains. It has been discovered also in the Bureya range, and in its north-east continuation in the Amguñ region. Auriferous sands, but not very rich, have been discovered in the feeders of Lake Hanka and the Suifong river, as also on the smaller islands of the Gulf of Peter the Great. Mining is the next most important industry after agriculture. In East Siberia gold is obtained almost exclusively from gravel-washings, quartz mining being confined to three localities, one near Vladivostok and two in Transbaikalia.. In West Siberia, however, quartz-mining is steadily increasing in importance: whereas in 1900 the output of gold from this source was less than 10,000 oz., in 1904 it amounted to close upon 50,000 oz. On the other hand gravel-washing gives a declining yield in West Siberia, for while in 1900 the output from this source was approximately 172,000 oz., in 1904 it was only 81,000 oz. The districts of Mariinsk and Achinsk are the most successful quartz-mining localities. Altogether West Siberia yields annually 130,000 oz. of gold. The gold-bearing gravels of East Siberia, especially those of the Lena and the Amur, are relatively more prolific than those of West Siberia. The total yield annually amounts to some 700,000 oz.., the largest quantity coming from the 01ekminsk district in the province of. Yakutsk, and this district is followed by the Amur region, the Maritime province, and Nerchinsk and Trans­baikalia. Sliver and lead ores exist in the Altai and the Nerchinsk Mountains, as well as copper, cinnabar and tin. Iron-ores are known at several places on the outskirts of the alpine tracts (as about Irkutsk), as well as in the Selenginsk region and in the Altai. The more important iron-works of the Urals are situated on the Siberian slope of the range. Coal occurs in many. Jurassic fresh-water basins, namely, on the outskirts of the Altai, in south Yeniseisk, about. Irkutsk, in the Nerchinsk district, at many places in the Maritime province, and on. the island of Sakhalin. Beds of excellent graphite have been found in the Kitoi Alps (Mount Alibert) and in the Turukhansk district in Yenisei. Rock-salt occurs at several places on the Lena and in Transbaikalia, and salt-springs are numerous—those of Ust-kutsk on the Lena and of Usolie near Irkutsk being the most noteworthy. A large number of lakes, especially in Transbaikalia and in Tomsk, yield salt. Lastly, from the Altai region, as well as from the Nerchinsk Mountains, precious stones, such as Jasper, malachite, beryl, dark quartz, and the like, are exported. The Ekaterinburg stone-polishing works in the Urals and those of Kolyvañ in the Altai are well known.

The orography sketched above explains the great development of the river-systems of Siberia and the uniformity of their course.

The three principal rivers—the Ob, the Yenisei, and the Lena—take their rise on the high plateau or in the alpine regions fringing it, and, after descending from the plateau and piercing the alpine regions, flow for many hundreds of miles across the high plains and lowlands before they reach the Arctic Ocean. The three rivers of north-eastern Siberia—the Yana, Indigirka and Kolyma—have the same general character, their courses being, however, much shorter, as in these latitudes the plateau approaches nearer to the Arctic Ocean. The Amur, the upper tributaries of which rise on the eastern border-range of the high plateau, is similar. The Shilka and the Arguñ, which form it, flow first towards the north-east along the windings of the lower terrace of the great plateau; from this the Amur descends, cutting through the Great Khingan and flowing down the terraces of the eastern versant towards the Pacific. A noteworthy feature of the principal Siberian rivers is that each is formed by the confluence of a pair of rivers. Examples are the Ob and the Irtysh, the Yenisei and the Angara (itself a double river formed by the Angara and the Lower Tunguzka), the Lena and the Vitim, the Arguñ and the Shilka, while the Amur in its turn receives a tributary as large as itself—the Sungari. Owing to this twinning, and the general direction of their courses, the rivers of Siberia offer immense advantages for inland navigation, not only from north to south but also from west to east. It is this circumstance that facilitated the rapid invasion of Siberia by the Russian Cossacks and hunters; they followed the courses of the twin rivers in their advance towards the east, and discovered short portages which permitted them to transfer their boats from the system of the Ob to that of the Yenisei, and from the latter to that of the Lena, a tributary of which—the Aldan— brought them close to the Sea of Okhotsk. At the present day steamers ply from Tyumeñ, at the foot of the Urals, to Semipalatinsk on the border of the Kirghiz steppe and to Tomsk in the very heart of West Siberia. Uninterrupted water communication could readily be established from Tyumeñ to Yakutsk, Aldansk, and the gold­mines of the Vitim. Owing to the fact that the great plateau separates the Lena from the Amur, no easy water communication can be established between the latter and the other Siberian rivers. The tributaries of the Amur (the Shilka with its affluent the Ingoda) become navigable only on the lower terrace of the plateau. But the trench of the Uda, to the east of Lake Baikal, offers easy access for the Great Siberian railway up to and across the high plateau. Unfortunately all the rivers are frozen for many months every year. Even in lower latitudes (52° to 55° N.) they are ice-bound from the beginning of November to the beginning of May;@@1 while in 65° N. they are open only for 90 to 120 days, and only for 100 days (the Yenisei) or even 70 days (the Lena) in 70° N. During the winter the smaller tributaries freeze to the bottom, and about 1st January Lake Baikal becomes covered with a solid crust of ice capable of bearing files of loaded sledges.

Numberless lakes occur in both East and West Siberia. There are wide areas on the plains of West Siberia and on the high plateau of East Siberia, which, virtually, are still passing through the Lacustrine period; but the total area now under water bears but a trifling proportion to the vast surface which the lakes covered even at a very recent period, when Neolithic man inhabited Siberia. All the valleys and depressions bear traces of immense post-Pliocene lakes. . Even within historical times and during the 19th century the desiccation of the lakes has gone on at a very rapid rate.@@2 The principal lake is Lake Baikal, more than 400 m. long, and 20 to 50 broad. Another great lake, Lake Kossogol, on the Mongolian frontier, is 120 m. long and 50 broad. Vast numbers of small lakes stud the Vitim and upper Selenga plateaus; the lower valley of the latter river contains the Goose Lake(Gusinoye). In the basin of the Amur are Lake Hanka (1700 sq. m.), connected with the Usuri; Lakes Kada and Kidzi, by which the lower Amur once flowed to the Pacific ; and very many smaller ones on the left side of the lower Amur. Numerous lakes and extensive marshes diversify the low plains of West Siberia ; the Baraba steppe is dotted with lakes and ponds—Lake Chany (1400 sq. m.) and the innumer­able smaller lakes which surround it being but relatively insignificant remains of the former lacustrine basins; while at the confluence of the Irtysh and the Ob. impassable marshes stretch over many thousands of square miles. Several alpine lakes, of which the picturesque Teletskoye may be specially mentioned, occupy the deeper parts of the valleys of the Altai.

The coast-line of Siberia is very extensive both on the Arctic Ocean and on the Pacific. The former ocean is ice-bound for at least ten months out of twelve; and, though Nordensk- jöld and Captain Wiggins demonstrated (1874-1900) the possibility of navigation along its shores, it is exceedingly doubtful whether it can ever become a commercial route of any importance. The coast-line has few indentations, the chief being the double gulf of the Ob and the Taz, separated from the Sea of Kara by an elongated peninsula (Samoyede), and from the bay of the Yenisei by another. The immense peninsula of Taymyr— a barren tundra intersected by the wild Byrranga Hills-projects in Cape Chelyuskin as far north as 77° 46' N. The bay of the Yana, east of the delta of the Lena, is a wide indentation sheltered on the north by the islands of New Siberia.. The bays of the Kolyma, the Chaun and Kolyuchin are of little importance. The New Siberia islands are occasionally visited by hunters, as is also the small group of the Bear Islands opposite the mouth of the Kolyma. Wrangel or Kellett Island is still quite unknown. Bering Strait, at

@@@1 The Lena at Verkholensk is navigable for 170 days, at Yakutsk for 153 days: the Yenisei at Krasnoyarsk for 196 days.

@@@2 See Yadrintsev, in *Izvestia* of the Russian Geogr. Soc. (1886, No. I, with maps).