The lower terrace, occupied in Transbaikalia by the Nertchinsk district, has the character of a steppe, but is also intersected by a number of ranges, all running south­west to north-east, and all being plications of Silurian and Devonian rocks, containing silver, lead, and copper, and also auriferous sands. Agriculture can be easily carried on in the broad prairies, the only drawbacks being droughts, and also frosts in the settlements in the higher close valleys of the Nertchinsk or Gazimur Mountains. The lower terrace is in its turn fringed by a border-ridge—the Great Khingan —which has, with reference to the lower terrace, the same characters as the Yablonovoi in relation to the upper, and separates Siberia from northern Manchuria. This import­ant ridge, as shown elsewhere (vol. xxii. pp. 3, 4), does not run from south to north, as represented on the old maps, but from south-west to north-east ; it is pierced by the Amur near Albazin, and joins the Okhotsk ridge, which in its turn does not join the Yablonovoi Mountains. The mountains drawn west and east on older maps to connect the Yablo­novoi with the Okhotsk ridge have no actual existence.

The rivers belong to three different systems,—the affluents of Lake Baikal, of the Lena, and of the Amur. Of the first the Selenga (800 miles long) rises in the Hanghai Mountains of north­western Mongolia, one of its great tributaries (the Ebin-gol) being an emissary of Lake Kossogol. It flows past Selenghinsk and enters Lake Baikal from the south-east, forming a wide delta. The Tchikoi, the Khiɫok, and the Uda are its chief tributaries in Transbaikalia.@@1 The Barguzin and the Upper Angara are two large tributaries of Lake Baikal from the north-east. Of the tributaries of the Lena, the Vitim with its affluents (Karenga, Tsipa, Muya, Kaɫar, Kaɫakan) flows on the high plateau through uninhabited regions, as also does the Olekma. The tributaries of the Amur, which is formed by the junction of the Shilka and the Argun, are much more important. The Argun, which at a quite recent epoch received the waters of the Dalai-nor, and thus had the Keruleñ for its source, is no longer in communication with the rapidly drying Mongolian lake, and has its sources in the Gan, which flows from the Great Khingan. It is not navigable, but receives the Gazimur and several other streams which water the Nertchinsk mining district. The Shilka is formed by the union of the Onon and the Tchita rivers, and is navigable from the town of Tchita, thus being an important channel of transit to the Amur.

Lake Baikal, with an area of 12,430 square miles (nearly equal to that of Switzerland), extends in a half crescent from south-west to north-east ; it has a length of over 400 miles and a width of from 20 to 53 miles. Its level is 1561 feet above the sea.@@2 About the middle it is divided into two parts, the Great Lake and the Little Lake, by the island Olkhon and the peninsula of Svyatoi Nos, which closely approach one another. Between the two there is a submerged ridge, which must be considered as a continuation of the Barguzin Alps. The wide delta of the Selenga narrows the Great Lake in its middle part, and renders it more shallow in the east than in the west—the greatest depth (4186 feet) having been reached by Dr Godlevski in the south-west. The depth of the Little Lake does not exceed 210 feet. According to Tchersky, the trough now occupied by the base had its origin in three sepa­rate synclinal valleys, which date from the Azoic epoch, and were gulfs of the ocean during the Silurian or Huronian period. They coalesced at a much later epoch.@@3 Of other lakes, the Gusinoye and Lake Baunt on the Vitim plateau, and Oron at its base, are worthy of notice. Many lakes yield common salt or sulphate of natron.

The high plateau consists of granites, gneisses, and syenites, covered with Laurentian schists. Silurian and Devonian marine deposits occur only on the lower terrace. Since that time the region has not been under the sea, and only freshwater Jurassic deposits and coal-beds are met with in the depressions. During the Glacial period most of the high terrace of the plateau and its border ridges were undoubtedly covered with vast glaciers. Volcanic rocks of more recent origin (Mesozoic ?) are met with in the north-western border ridge and on its slopes, as well as on the Vitim plateau. During the Glacial period the fauna of the lowest parts of Trans­baikalia was decidedly arctic; while during the Lacustrine or Post-Glacial period it was covered with numberless lakes, the

shores of which were inhabited by Neolithic man. Only few traces of these have remained, and they are rapidly drying up. Earth­quakes are very frequent on the shores of Lake Baikal, especially at the mouth of the Selenga, extending as far as Irkutsk, Barguzin, and Selenghinsk; in 1862 an extensive area was submerged by the lake. Numerous mineral springs, some of them of high repute, are spread all over Transbaikalia. The chief of them are the hot alkaline springs (130o F. ) at Turka, at the mouth of the Barguzin, whither hundreds of patients resort annually, those of Pogromna on the Uda (very similar to the Seltzer springs), those of Moɫokova near Tchita, and those of Darasun in the Nertchinsk district (very rich in carbonic acid and phosphate of iron).

The flora and fauna of Transbaikalia, owing to their intermediate character between a purely Siberian flora and fauna and those characteristic of the Mongolian and Manchurian regions, have been the subject of many careful investigations since the time of Pallas down to those of Turczaninoff, Middendorff, Schrenck, Radde, and Polyakoff. Their various characters in different parts of this ex­tensive territory could not be described without entering too largely into details. The reader may consult the works of the authors just named (see vol. xxii. p. 12).

The climate is, as a whole, exceedingly dry and extreme. The winter is cold and dry ; snow is so trifling that the horses of the Buriats find their food throughout the winter on the steppes, and in the very middle of the winter wheeled vehicles are used all over the west. To the east of the Yablonovoi ridge the Nertchinsk district feels the influence of the North Pacific monsoon region, and snow falls more thickly, especially in the valleys, but the summer continues to be hot and dry. On the high plateau, even the summer is cold, owing to the altitude and the humidity arising from the marshes, and the soil is frozen to a great depth. In the vicinity of Lake Baikal the moderating influence of the great water-basin is felt to some extent, and there is a cooler summer ; in winter exceedingly deep snow covers the *goltsys* and valleys of the mountains around the lake.@@4

The population (497,760 in 1882) is exceedingly sparse, unless the immense uninhabitable spaces of the plateaus be left out of account. Even on the lower terrace nearly the whole of the region on the left bank of the Shilka is unsuited for agriculture, as also are the Gazimur Mountains, where only a few settlers gain a liveli­hood in some of the valleys, straggling against an unhealthy climate and the influence of goitre. The Russian population there gathers around the crown mines of the Nertchinsk district, while the steppes are occupied by Buriats. A succession of villages, supported partly by agriculture and partly by hunting and trade with Mongolia, are settled along the Shilka between Tchita and Sryetensk, while farther down the river flows in such a wild mountain region that only a few families are settled, at distances some 20 miles apart, to maintain communication. The same is true with regard to the lower Argun. The valleys of the Uda, the lower Selenga, and especially the Tchikoi and the Khiɫok have been occupied since the beginning of the century by Raskolniks, who have received the name of *Semeiskiye* on account of their large (compound) families, and there one finds, in a condition of prosperity such as is unknown in Russia proper, some of the finest represen­tatives of the Russian race. The remainder of the steppe of the Uda is occupied by Buriats, while the forests and marshes of the plateau are the hunting grounds of the nomad Tunguses. Only the valley of the Djida in the south of the Khamar-daban is settled in its lower parts.

The Russians of Transbaikalia present a great variety of ethno­logical types. Mainly owing to the difficulties of communication, many Great Russian Raskolniks and Little Russian settlers have preserved their ethnographical features pure from any admixture; while there are, on the other hand, villages in the Nertchinsk district, chiefly composed of the earliest Russian settlers, where a great admixture of Tungusian or Mongolian blood is observable. On the upper Argun the Cossacks are in features, character, lan­guage, and manners largely Mongolian. The Russians along the Chinese frontier constitute a separate *voisko* of the Transbaikalian Cossacks. There is great uncertainty as to the numbers of the Buriats ; they are estimated at about 150,000. The Tunguses num­ber only a very few thousands.

Agriculture is carried on to a limited extent by the Buriats and in all Russian settlements ; but it prospers only in the valleys of west Transbaikalia, and partly in the Nertchinsk region, while in the steppes of the Argun and Onon even the Russians resort chiefly to cattle-breeding and trade, or to hunting. On the whole, corn has to be imported ; summer wheat and summer rye, oats, and barley are the chief crops in the east, winter rye not being sown in con­sequence of the want of snow. Cattle-rearing is extensively carried on, especially by the Buriats, but their herds and flocks, which wander freely over the steppes throughout the winter, are often destroyed in great numbers by the snow-storms of spring. Hunt­ing is an important occupation, even with the Russians, many of

@@@1 Steamers have ascended the lower Selenga and the Uda up to Verkneudinsk.

2 According to the levelling made in 1875-76 from Zverinogolovsk, in Oren- burg, to Lake Baikal. There is uncertainty as to the absolute altitude, that of Zverinogolovsk, 318 feet, having still to be verified. See *Mem. Russ. Geοgr. Soc.: Phys. Geogr.,* vol. xv., 1885.

@@@3 I. Tchersky, “ Results of the Exploration of Lake Baikal,” in *Mem. Russ. Geogr. Soc., Phys. Geogr.,* vol. xv., 1886, with a geological map on a scale of 7 miles to an inch; Fr. Schmidt’s report in the yearly *Report* of the Russian Geo­graphical Society for 1886 (both Russian).

@@@4 “ Das Klima von Ost-Sibirien," by A. Woyeikoff, in *Meteor. Zeitsch.,* 1884.