The lower terrace has the character of a steppe, but is intersected by a number of ranges, plications of Silurian and Devonian rocks, all running south-west to north-east, and all containing silver, lead, copper and auriferous sands. Agriculture can be easily carried on in the broad prairies, the only drawbacks being droughts, and frosts in the higher closed valleys of the Nerchinsk or Gazimur Mountains. The lower terrace is in its turn fringed by a border-ridge—the Great Khingan—which occupies, with reference, to the lower terrace, the same position that the Yablonoi does in relation to the upper, and separates Siberia from northern Manchuria. This important ridge 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 Mountains, which however do not join the Yoblonoi Mountains.

The rivers belong to three different systems—the affluents of Lake Baikal, of the Lena and of the Amur. Of the first the Selenga (8oo m. long) rises in north-west Mongolia, one of its tributaries (the Egín-gol) being an emissary of Lake Kosso-gol. The Chikoi, Khilok and Üda are its chief tributaries in Transbaikalia. The Barguzin and the upper Angara enter Lake Baikal from the north- east. Of the tributaries of the Lena, the Vitim with its affluents' (Karenga, Tsipa, and Muya) flows on the high plateau through un­inhabited regions, as also does the OIekma. The tributaries of the Amur 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 desiccating Mongolian lake, but has its sources in the Gan, which flows from the Great Khingan Mountains. It is not navigable, but receives the Gazimur and several other streams from the Nerchinsk mining district. The Shilka is formed by the union of the Onon and the Chita rivers, and is navigable from the town of Chita, thus being an important channel to the Amur.

Lake Baikal, with an area of 13,200 sq. m. (nearly equal to that of Switzerland), extends in a half crescent from south-west to north-east, with a length of nearly 400 m. and a width of 20 to 50 m. Its level is 1,500 ft. above the sea.@@1 The wide delta of the Selenga narrows it in the midd!e, and renders it shallower in the east than in the west. The other lakes include the Gusinoye and Lake Ba-unt on the Vitim plateau. Many lakes yield common salt.

The high plateau is built up of granites, gneisses and syenites, overlain by Laurentian schists. Silurian and Devonian marine deposits occur only on the lower terrace. Since that epoch the region has not been’ under the sea, and only fresh-water Jurassic deposits and coal beds are met with in the depressions. During the Glacial period most of the high terrace 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 Trans- baikaha was decidedly arctic; while during the Lacustrine or ρost- Glacial periods this region was dotted over with numberless lakes, the shores of which were inhabited by Neolithic man. Only few traces of these survive, and they are rapidly drying up. Earth- quakes are very frequent on the shores of Lake Baikal, especially at the mouth of the Selenga, and they extend as far as Irkutsk, Barguzin and Selenginsk; in 1862 an extensive area was submerged by the lake. Numerous mineral springs, some of them of high repute, exist all over Transbaikalia. The most important are the hot alkaline springs (130° F.) at Turka, at the mouth of the Barguzin, those of Pogromna on the Uda (very similar to the Seltzer springs), those of Molokova near Chita and those of Darasun in the Nerchinsk district.

The climate is, as a whole, exceedingly dry. The winter is cold and dry, the thermometer dropping as low as —58° F. But the snow is so trifling that the horses of the Buryats arc able to procure 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 Yablonoi ridge the Nerchinsk district feels the influence of the North Pacific monsoons, and snow falls more thickly, especially in the valleys ; but the summer is 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. At Chita the daily range in summer and spring is sometimes as much as 33° to 46° In the vicinity of Lake Baikal there is a cooler summer; in winter exceedingly deep snow covers the mountains around the lake.@@2

The estimated population in 1906 was 742,200. The Russian population is gathered around the mines of the Nerchinsk district, while the steppes are occupied by the Buryats. A string of villages has been planted along the Shilka between Chita and Stryetensk. The valleys of the Uda, the lower Selenga, and especially the Chikoi and the Khilok have been occupied since the beginning of the 19th century by Raskolniks, some of whom, living in a condition of prosperity such as is unknown in

Russia proper, rank amongst the finest representatives of the Russian race. The remainder of the steppe of the Uda is occu- pied by Buryats, while the forests and marshes of the plateau are the hunting grounds of the nomad Tunguses. South of the Khamar-daban the only settled region is the lower valley of the Jida. On the Upper Argun̄ the Cossacks are in features, character, language and manners largely Mongolian. The Russians along the Chinese frontier constitute a separate *υoisko* or division of the Transbaikal Cossacks. The Buryats number about 180,000, the Tunguses over 30,000. The province is divided into five districts, the chief towns of which are Chita, the capital, Barguzin, Nerchinsk, Selenginsk and Verkhneudinsk.

Although a good deal of land has been cleared by the settlers, nearly one-half of the entire area is still covered with forests. The principal varieties are fir, larch, aspen, poplar and birch, with *Abies pectinata* in the north and the cedar in the south. Only about one-third of the surface is adaptable for cultivation, and of that only about one-tenth is actually under tillage.

Agriculture is carried on to a limited extent by the Buryats and in all the Russian settlements; but it prospers only in the valleys of West Transbaikalia, and partly in the Nerchinsk region, while in the steppes of the Arguñ and Onon even the Russians resort to pastoral pursuits and trade, or to hunting. Livestock rearing is extensively carried on, especially by the Buryats, but their herds and flocks are often destroyed in great numbers by the snowstorms of spring. Hunting is an important occupation, even with the Russians, many of whom leave their homes in October to spend six weeks in the *taiga* (forest region). The fisheries of Lake Baikal and the lower parts of its affluents are important. Enormous quantities of *Salmo omul* are taken every year ; and 5. *thymalus, S. oxyrhynchus* and *S. fluυiatilis* are also taken. Mining, and especially gold mining, is important, but the production of gold has fallen off. Silver mines have only a very small output. Iron mining is gradually developing, and good coal mines are now being worked. Salt is raised from several lakes, and the extraction of Epsom salts has considerably developed. Manufactures, though insignificant, have increased. The trade is chiefly concentrated at Kiakhta. The Cossacks on the frontier traffic in brick-tea, cattle and hides with Mongolia. The export of furs is of considerable value.

Transbaikalia ∙is crossed by the Trans-siberian railway from Mysovaya on Lake Baikal, via Chita, to Stryetensk, and from Kaida- lovo, near Chita, to the Mongolian frontier; the latter section is continued across Manchuria to Vladivostok and Port Arthur. Regular steamer communication has been established along Lake Baikal, not only for the transport of passengers and goods between the two railway stations of Listvinichnoye and Mysovaya, but also with the object of developing the fishing industry, which is of great importance. Steamers ply up the Selenga river as far as Selenginsk, considerable cargoes of tea being transported along this line.

(P. A. K.; J.T. Be.)

**TRANSCASPIAN REGION,** a Russian territory on the **E.** of the Caspian, bounded S. by Khorasan and Afghanistan, N. by the Russian province of Uralsk, N.E. by Khiva and Bokhara and S.E. by Afghan Turkestan. Area, 212,545 sq. m. Some of the most interesting problems of geography, such as those relating to the changes in the course of the Jaxartes (Syr-darya) and the Oxus (Amu-darya), and the supposed periodical disappearance of Lake Aral, are connected with the Transcaspian deserts; and it is here that we must look for a clue to the physical changes which transformed the Euro-Asiatic Mediterranean—the Aral-Caspian and Pontic basin—into a series of separate seas, and desiccated them, powerfully influencing the distribution of floras and faunas, and centuries ago com- pelling the inhabitants of Western and Central Asia to enter upon their great migrations. But down to a comparatively recent date the arid, barren deserts, peopled only by wandering Turkomans, were almost a *terra incognita.*

A mountain chain, comparable in length to the Alps, separates the deserts of the Transcaspian from the highlands of Khorasan. It begins in the Krasnovodsk peninsula of the Caspian, under the names of Kuryanyn-kary and Great Balkans, whose masses of granite and other crystalline rock reach an altitude of some 535o ft. Farther south-east they are continued in the Little Balkans (2ooo ft.) and the Kopepet-dagh or Koρet-dagh. The latter rises steep and rugged above the flat deserts over a stretch of 6oo m. In structure it is homologous with the Caucasus chain ; it appears as an outer walI of the Khorasan plateau, and is separated from it by a broad valley, which, like the Rion and Kura valley of Transcaucasia, is drained by two rivers flowing in opposite directions—the Atrek, which flows north-west into the Caspian, and the Keshef-rud, which flows to

@@@1 There is uncertainty as to the absolute altitude (see Baikal).

@@@2 See “ Das Klima von Ost-Siberien,” by A. Woyeikow, in *Meteorol. Zeitschrift* (1884).