Roman Catholic Charitable Society, attached to the Tomsk church of the Intercession of the Holy Virgin, and a relief society for workmen and miners in the Tomsk mining district, founded in 1894.

The last Society aims at the assistance of workmen and mine employees, incapable of further work, disabled by accident or other casuality. The Agricultural Colonies and Commercial School Society was founded in 1896, with a view to improve the condition of boys and girls confined in penitentiaries; among smaller organisations are the Clerks' Mutual Aid Society, the Mutual Aid Society for Women employed at Tomsk, and the "Ant-hill" workmen's club.

Scientific societies: The Naturalists' and Doctors' Society, attached to the Tomsk university, contributing to the progress of all branches of natural history and medicine, occupied with the study of Siberia and the contiguous countries in connexion with natural history and medicine, their population (mainly the natives) from an anthropological standpoint, and with the mode of life of the prehistoric inhabitants of Siberia according to the data of archaeology. This society organises excursions or facilitates them, arranges public lectures and publishes a journal: "Transactions of the Tomsk Natural-



Archibishop's House in Tomsk.

ists' and Doctors' Society". The West-Siberian Agricultural Society has existed from 1895; it studies the requirements of local agriculture and organises public lectures, which are published under the title of "Scientific Review of the Tomsk Region". Among the societies following a certain speciality, the most active are: the Tomsk branch of the Imperial Russian Musical Society, organised in 1879 by Mrs. Dmítriev-Mamónov, the first president of the society, and a musical school, the first in Siberia, attached to it, a volunteer fire-brigade; a racing society, with a course of its own; the Legitimate Sport Society, the Sportsmen's Society; the Horticultural Society; the Tomsk Cooperative Supply Society; the Railway Cooperative Supply Society; the Society for the Promotion of Physical Development, founded in 1896—it arranges games, has built public baths etc. and has created summer colonies for weak children. In 1897, an extensive space of wooded land belonging to

the State was granted for the temporary use of the Society for the arrangement of summer colonies.

The stone theatre built by Koroliov is now leased by its owner to strolling players; it contains 2 rows of boxes, a gallery, H rows of fauteuils and chairs, and a pit with 780 places. Public and Commercial clubs.

Libraries: Besides the libraries of the university and of other establishments, Tomsk is provided with two public libraries founded by Makúshin and a free reading room for the lower classes maintained by the Society for the Promotion of Elementary Education.

The local press: the "Tomsk Government Gazette", since 1857; the non-official part has been published since 1858, serving to unite the local intellectual powers in their efforts to study the country: the "Tomsk Diocesan Gazette"; the "Siberian Life" (non-official), editor Makúshin; the "Siberian Messenger" (non-official), editor Preismann; "Circulars for the West-Siberian Educational District"; "Memoirs of the Tomsk Imperial University"; "Gold-Mining and Mining Messenger", edited by Mining Engineer Reutóvsky.

Printing offices: the Government Administration, Beliaev, Kónonov, Makúshin, S. P. Yákovlev and Co., the Diocesan.

The mineral wealth of the government and the contiguous regions and the conditions of trade and industry have transformed the town into an administrative and judicial centre, containing some other special establishments serving local requirements, such as the mining department with gold-melting laboratory, the department of the Midsiberian railway, and the commercial department of the Siberian Railway.

The town of Tomsk presented long ago an important commercial centre of Siberia, on account of its favourable position and as the eastern terminus of the navigable route of the Ob basin. Having been avoided by the railway, it was apprehended that the further progress of the town would be stopped



Theatre in Tomsk.

and that it would become exclusively a centre of administration; these surmises however have proved untrue, and the town continues to grow and extend its commercial operations. Having lost part of the goods in transit by the railway. Tomsk in return has widened its local operations, the railway enlarging more and more the local demand. The navigation commencing at town of Tomsk receives as well a further development thanks to the progress of the produc-

tive capacity of the country caused by the railway. The establishment of an exchange for ascertaining the general commercial conditions of Siberian trade

will greatly influence the growth of the town and exert its effect upon trade and industry.

Manufactures and industry more extensively developed in Tomsk than in the other towns of Siberia, are gradually increasing. The following official data shew the number and production of the factories situated within the town-line:

				Charles of the control of the contro	
	FACTORIES.	Number.		Production in rubis.	
	Distilleries	33		520,000	
	Beer and mead breweries	4		513,000	
	Vodka distillery	1		10,000	
	Yeast manufactories	. 4	. 0	20,700	
	Potteries	4		18,000	
	Rope-yards	20		21,000	
	Brick-kilns	48		156,620	
16)	Tanneries	7		234,000	
	Butter manufactories	5	*	8,500	
	Saw-mill	1		20,000	
	Soap boileries	7		81,000	
	Wax candle man'ies	3		35,000	N.
	Tallow candle man'ies	5		46,000	K.
	Tallow boileries	2		18,000	
	Match man'ies	3		140,000	
	Fur man'ies	- 3		13,000	
	Carriage man'ies	3		160,000	ò
	Machinery works	2		5,450	108
	Cast-iron and iron works	1		6,000	4
	Joinery works	24		54,285	No.
6]	Harness man'ies	10		19,550 **	
	Locksmiths	7		21,300	
	Forges	39		49,500	
	Total	211		2,149,405	18

Four banks testify to the extensive commercial operations of the town: Branch of the State Bank, the Siberian Trade Bank, the Russian Bank for Foreign Trade, and the Siberian Public Bank.

Agencies: The Yarosláv-Kostromá and Nízhni-Nóvgorod-Samára Land Banks.

The town revenue for 1898 was estimated at R. 396,811. 39 k., the expenditure at R. 374,918. 83 k. In 1889, the revenue amounted to R. 176,717, the expenditure to R. 168,205. During a period of ten years, the town revenue more than doubled.

Important trading firms are represented by Kukhtérin and Sons, Mikháilov—draper's goods, tea and sugar, Nekrásov—iron wares, Pastukhóv—wine-cellar. Korolióv—tea and sugar. Reutóvsky—technical and trading office; Tomsk Electric Lighting. Stakhéev—draper's goods. Serebriakóv—tobacco shop. Shvetsóv—tea and sugar. The Alexander Sugar Refineries Company (Bródsky's refined sugar), Bogomólov—ironware. Golovánov—readymade shoes.

Agencies of Insurance Societies and Transport Offices: Belaev, of the Russian Fire Insurance Society of 1827. Ginsberg, of the Commercial Insurrance Society. Dmítriev, of the St.-Petersburg Insurance Society. Kotov, of the Nadézhda Society. Korolénko, of the Northern Insurance Society. Vladislävlev, Russian Insurance and Goods Transport Society. Leshévits, the Salamander Society. Románov, Russian Society for Insurance of Capital and Income of 1835. Tetskóv, the Anchor Insurance Society. Kháov, Second Russian Insurance Society. Shmurúgin, the Russian Fire Insurance Society. Liúlin, Kaménsky's Goods' Transport Office.

Hotels: "Russia", "Europe", "Siberian Hotel". The first and second are the best Rates, from R. 1 a day. Dinner with two dishes, 50 k., with four dishes R. 1. The hotels are fitted with telephones. The best furnished rooms belong to Baranov and Khvórov. Hackney-coach tariff: twelve hours in the day or night, R. 2, an hour 30 k., a drive 20 k. To the railway station or back 75 k. To the landing-place of Cheremoshnikí or back R. 1.

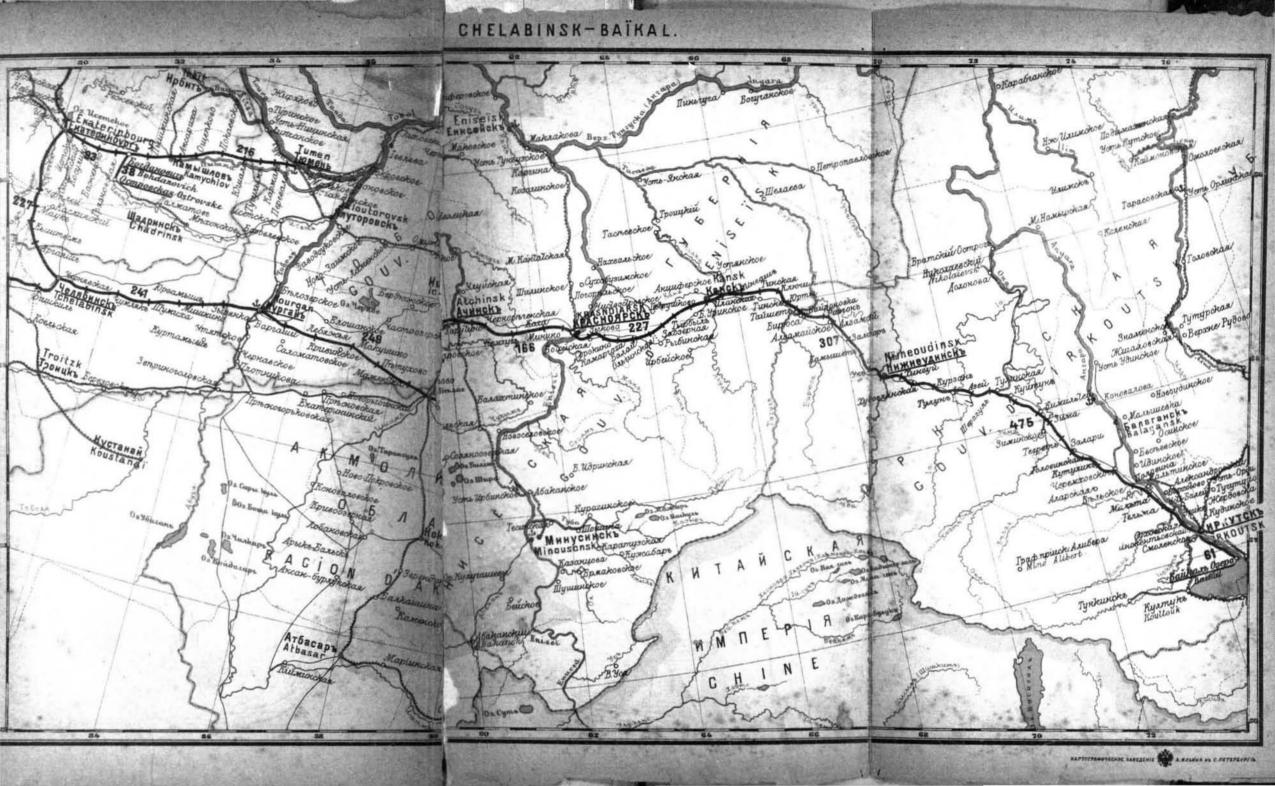


River Tom, near town of Tomsk.

Among the historical events may be mentioned the visits of Imperial personages. The first visit took place in 1868, and was paid by the Grand Duke Vladímir Alexándrovich. In 1873, the town was visited by the Grand Duke Alexis Alexándrovich.

In 1891, the inhabitants of Tomsk had the honour of receiving an Imperial traveller, the present Emperor Nicholas II, then Heir Apparent to the throne. The Tsesarévich arrived from Irkútsk by the Siberian post-road and continued his journey from Tomsk by the rivers Tom, Ob and Irtysh, passing through the towns of Tobólsk and Omsk.





Lake Baikál.

Position and extent of the lake.—Surrounding mountains, their geological formation.—Capes, superstitions and legends.—Earthquakes.—Tributaries and sources.—The water and its temperature.—Winds.—Ice-cover.—Flora and Fauna.—Commercial importance of the Baikál aquatic fauna.—Navigation and steamship communication on the Baikál and its river basins.—Surveys for the Circumbaikál Railway.—Ice-breaker.—Bibliography,

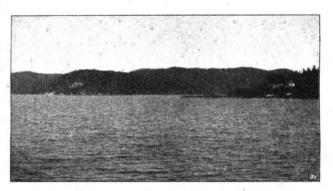
T

HE BAIKAL, one of the largest alpine lakes in the world, is called the Holy Sea by the local Russian population. It is the largest fresh-water lake in the old world, and lies between 50°28' and 55°50' N. lat. and 73°25' and 80° E. long. The Chinese call it Pe-Khoi, which means Northern Sea, the Mongols, Dalai-Nor, Holy Sea or Bai-kul, Rich Sea. The

north American Lakes, Superior, Michigan, Huron and the African Nyanza alone surpass it in size. The extent of its clear surface and its configuration recall Lake Tanganáika situated in Central Africa in proximity to the Nyanza.

The superficial area of the Baikál is 30,034 square versts (34,179 square kilom.), its length, 600 versts. It bends slightly from south-west to north-east; its breadth is not so considerable and varies from 27 to 85 versts. The depth of the lake in its southern part, sounded by Engineer Bogoslóvsky, is 791 sea sazhens or 3,185 feet. Situated 1.561 feet above the level of the sea, the bottom of the lake at its deepest parts is much lower than the level of the ocean. According to the soundings, which give but a slight idea of the reliet of the bottom, it may be said that the bottom of the lake presents an immense basin, with deep cavities which, at some places, begin at the shore and run almost through its whole extent.

This basin, at one-third of its entire length from the south-west, is divided into two unequal parts by a submerged ridge, according to Drizhénko, who has investigated the lake, composed of alluvium brought down by the river Selengá and partly by the Great Buguldéika, above which the water is not more than 234 sazhens deep. The soundings made near the shore shew that, although the cavities at some places begin close to the shore, there are considerable areas where the water has a depth of only 30 sazhens. The largest of these areas lying under water occur along the mouth of the Selengá, the Chivirkúlskaya Bay, the delta of the Upper Angará and the Little Sea. It may be supposed that the bottom near the shore represents



The Baikal, Little Baranchuk, source of the Angara (phot. by Drizhenko).

the continuation of the surrounding relief, which retains its various forms under the surface of the water.

The mountains bordering the valley of the Baikál rise in several elevated ridges, which give a peculiarly picturesque and imposing beauty to this region. The mountains on the western side of the lake are called Baikál Mountains and consist of two parallel ridges, the Littoral and Onótsk chains The mountains on the shore are known under the name of Transbaikál Mountains, dividing the rivers Selengá and Barguzín into three parts: on the south-west stands the Khamár Dabán, in the centre, the Selengá Barguzín Mountains, on the north-east, those of Barguzín-Angará. The absolute height of the mountain summits does not exceed 6,000 feet, or 4,500 above the level of the lake.

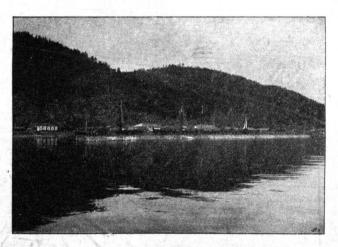
Almost all the elevations surrounding the Baikál consist of granite blocks and gravel; syenite, gneiss, crystalline slates and porphyry alternating with old limestone, sandstone and seams of breccia. The investigations made by Chérsky shewed that the mountains standing near and on the shore of lake Baikál contain seven geological systems: archaean constitues the leading system; silurian, bordering on the northern slope, contain the first system; devonian, abounding in red sandstone occurs on the Angará; jurassic, composed of clayey limestone; tertiary system of sandstone, soft clay and limestone of aqueous formation: post tertiary and recent formations. Volcanic eruptions were found on the south-western side of the lake, N.—W. of Khamár Dabán.

The surrounding mountains assume peculiar shapes and, protruding into the water, form numerous capes of which 80, more characteristic than the others, have received names according to their shape or colour, or after some plant, animal or fish occurring there. The native tribes attached different superstitious legends to many of the cliffs and capes; this explains why many



The Baikál. Place of the building of the dock for icebreaker near of Listvennichnaya (phot. by Drizhenko).

points on the shore of the stormy Baikál and its islands enjoy a special veneration to the present day. The Buriát shamans and the lama priests consid-



The Baikal. Listvennichnaya (phot. by Drizhénko).

er the island of Olkhón as the dwelling place of the evil spirit Begdozí, and offer him frequent sacrifices. The Academician Georgi, who visited the island in 1772, stated that the number of sacrifices made there was quite astonishing. Mongolian folklore connects the island with tales of their oldest hero Chingiz-Khan, saying that his camp lay there.

The cape at the upper end of the island, as stated by Drizhénko, presents a strange phenomenon: a peculiarly shaped and immense cliff rises from the water's edge forming a narrow but long wall which, from a certain point, presents a perfectly regular profile several sazhens in height. Opposite to the island of Olkhón, a large peninsula, called the Holy Cape, protrudes from the eastern shore, having on both sides the deep bays of Chivirkid and Barguzín. This peninsula has the form of a regular triangle, in the middle of which a mountain ridge stretches for a distance of 30 versts. The extreme northern end of the peninsula presents a high wooded almost vertical ridge with a craggy summit, from which flows a liquid called "Imushá" by the Tungús. According to Georgi, it is a kind of mineral oil (vitroleum unctuesum); others believe it to be produced by the decomposition of the guano of cormorants, herons, seagulls and other birds, which come to the island in infin-



The Baikal. The upper end of the Island of Olkhon.

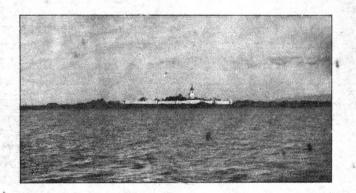
ite numbers, mainly during their migration. The rocky Cape Shaman is situated on the eastern shore, north of the Holy Cape (55° N. lat). Among its numerous cliffs, three are very high, rising in a vertical line to a height of 200 feet above the level of the lake. One of them has the form of an immense head with a huge nose and big holes instead of eyes; the crevice which represents the mouth affords shelter to flocks of sea cormorants (Phalocrocorax carbo). The other cliffs consist of dark quartz of horny formation. The Tungús give the name of Khamanríl to this cape, and consider the first cliff to be the sea god Diánda, while the other two represent inferior deities. The shamans render worship to Diánda, in order that he may forbid the waves to drown the Tungús falling into the sea, order them to drive shoals of fish to the shore etc. On the western side, to the south of Olkhón, the Kolokólnava

(Bell-tower) Bay is very picturesque; it is so called on account of two cliffs standing on both sides of it and looking at a distance like two bell-towers. At the western edge of the Baikál, the Shamán Cliff, venerated by the Buriáts, stands near the Kultúksk bay. At the outflow of the Angará, there is a submerged granite cliff, called Shamánka, with a circumference of 7 sazhens, which rises for only one sazhen above the level of the Baikál and is considered by the Shamáns and Lamas to be the dwelling place of the invincible White God, to whom they offer sacrifices on this cliff. The lake is surrounded by places which are held in veneration, accounting for the name of Holy Sea given to the lake.

The numerous rocky fragments torn from the main-land found all around the lake, the islands lying in close proximity to the shore and retaining traces of their former identity with the surrounding mountains, and the unfathomable depth of the water near the cliffs, rising above its surface, testify to the violent origin of the lake. Georgi believes that the area occupied by it is the continuation of the valley of the Angara, and that the basin of the lake was formed by a sinking produced by a violent earthquake, which to the present day is followed by slight but annual tremors of the surface. According to observations, it is evident that earthquakes occur more frequently in the environs of the lake lying to the south-west near Tunka, bearing traces of former volcanic eruptions.

The ridges surrounding the Baikál give rise to numerous streams. Chérsky reckons 336 tributaries to the lake, among which the most important are the Upper Angará, falling into the lake on the north-eastern side; the Barguzín, almost at the middle of the eastern shore; the Selengá, on the south-eastern shore. The only outflow of the lake is through the Lower Angará, on the south-western shore.

The water of the Baikál is clear and trasparent. Its temperature has as yet been very insufficiently investigated, and is only now being examined by the expedition under Drizhénko. The investigations of Dydóvsky and Godlévsky, made in 1869—1876, shewed an invariable temperature at deep



The Baikál. The Posólsk Monastery of the Transfiguration (phot. by Drizhénko).

places and a slight fluctuation at the surface near the shore; this is in their opinion, the characteristic property of the water in the Baikál. The temperature at the surface of the lake varies and does not exceed 10° C., at a greater depth, the fluctuation is less, and 48 sazhens deep, the difference between the lowest and highest temperature during the year is 2°. 5,70 sazhens deep, it is 1° C. still deeper, the temperature does not vary during the year and is +3°. 5 C. On the surface of the lake, mostly on its eastern part, between the Holy Cape and the mouth of the Túrka, there frequently occurs floating wax or "bikerít", which is used by the inhabitants as a medicine for rheumatism and scurvy. It burns very quickly with a bright flame and leaves much soot. This substance was subjected, by Shamárin in Irkútsk, to analysis by dry distillation: (volatilisation 140° C.) 8.44 per cent of liquid distillate—burning oil, 61.17 per cent of solids—parafin of the best quality. In connexion with sea-wax, springs containing an oily liquid very much like naphtha have been discovered at the bottom of the Baikál, opposite to the Túrka.

The climate of the Baikál is very severe, the summer being short and the nights cold. The meteorological observations of the Drizhénko expedition

are not yet properly elaborated, but former explorations shew that N. E. and S. W. winds prevail.

From the end of May to the beginning of July, a N. E. wind with the local name of "Barguzin", blows on the southern part of the lake; from August, there is the "Kultúk" coming from the N. E. The strongest winds are called "Sormá" and blow from the N. W. They produce short but high waves, which sometimes rise to a height of a sazhen; at the same time, the waves are so rough that small vessels guided by unskilled hands are easily lost. During a storm, the waves of the Baikal rise to 6 or 7 feet. According to Georgi, the equilibrium of the water and air is very easily disturbed on account of the extraordinary unsteadiness of the Baikál, which is explained by the peculiar lightness and the great depth of the water. Storms occur frequently but are of no long duration, breaking against the surrounding cliffs. Thunderstorms gather from all sides in summer, but never pass over the lake. In June and July, the Baikal is almost calm. During this lull, numerous aquatic plants float on the surface of the water; the local inhabitants call this time the "blossoming" of the Baikal. The lake begins to freeze in November, but it is never frost-bound before the middle of December or the beginning of January; this fact cannot be explained by the absence of cold, but only by the unsteadiness and agitation of the water-surface. Being frostbound for a period of 4 to $4^{1/2}$ months, the lake has an ice-cover sometimes 9½ feet deep. Sledge traffic lasts for three months; at the end of April, the ice melts near the shores and softens. During the winter time, although the ice-cover is very thick, wide cracks break its surface; when it meets again, the ice piles up in heaps called "tóros". These crevasses, which have a breadth of 3 to 6 feet and more, are sometimes a verst long and form a serious impediment to communication on the ice. Their origin remains as yet unexplained; some believe that the ice breaks under the force of the wind and air pressure, others suppose that it is produced by the ebb and flow, but this is still insufficiently proved by science. The breaking of the ice surface, as in the alpine glaciers, is accompanied by a loud crash, recalling an explosion, followed by a long rolling noise. The crevice is instantly filled with water to the level of the ice, forming a kind of river. In 8-14 days it freezes again, and a new crevice appears at another place. The ice melts slowly and this process lasts nearly two months.

The Baikal flora is of the same nature as the alpine or sub-alpine flora. The craggy mountain slopes are mostly covered by juniper, service trees, meadow-sweet, wild rose and other bushes. The wood bordering the Baikal contains some foliage trees, but mainly consists of conifera such as fir, pine, Siberian "cedar" and others.

The fauna of the Baikál is very varied and numbers many species; it plays an important part in the industry of the country. The Baikál is most plentifully provided with fish and supplies the surrounding district. In the fish industry, the omúl (Salmo or Coregonus omul), the Baikál gwiniad (Coregonus baicalensis), the char (Salmo thymallus) and the Salmo fluviatilis occupy the first place. A most interesting and little known fish, characteristic of the Baikál, is the dracunculus (Comephorus baicalensis). It is 6 vershóks long, the head occupying a third of its entire length; the eyes are uncommonly large and protruding; from the gills to the tail, fins are attached on each side. This fish occurs in the deepest places of the lake (over 300 sazhens) and lives under the pressure of an immense body of water; when

brought to the surface, the fish is torn to pieces and melts in the sun. This is the reason why nobody ever saw a living specimen. Some of the zoologists reckon the dracunculus to the species of fish developing their ova inside the fish, and some of the fish traders say that it produces two little fish alive. According to the investigations of Dybóvsky, the Baikál also abounds in crustaceans (Gamarus) and gasteropods. In these waters, there are four kinds of sponges (Spongia baicalensis, S. bacillifera, S. intermedia, S. papiracea)

of a dark emerald colour, containing much chlorophyl. The inhabitants use a fresh sponge for polishing copper (teaurns etc.), and a dried sponge is employed to polish metals by the silversmiths of lrkútsk; the lower classes attribute to it medicinal properties.

Among the most characteristic inhabitants of the Baikal waters is the seal (Phoca baicalensts) called "nerpa" by the local inhabitants.



The Baikál. Nemchínov's landing-place Mysováya.

ants and khansaganún by the Buriáts. This form is exclusively proper to the Baikál and recalls the European Phoca annelata. The local population kill the nérpa during the whole summer, from the end of June, and employ the skins of the young animals in making valuable over-coats called "dokhá".

The inhospitable Baikal is designed by nature herself to be the chief way of communication with the contiguous country, which is covered by mountain ridges and has no other overland communications beyond a few impracticable paths. Already at the end of the XVII century, the Baikal possessed a navy which served for postal communications.

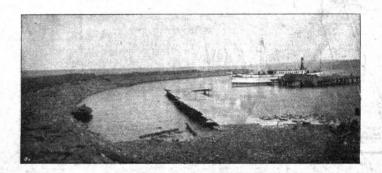
At the present time, the navigation of the Baikál, connected with that of the rivers Selengá and Angará, reaching to the bars, is in the hands of the Nemchínov Company, owning 10 steamers and 18 barges. Besides these, there are only a few sailing craft on the Baikál, belonging to fish traders.

Nemchínov and Co. make the following trips on the Baikál: from the landing-place of Lístvennichnaya to the Upper Angará, calling at the Túrka mineral springs; between Lístvennichnaya and Mysováya, from one side of the Baikál to the other; from Lístvennichnaya to the mouth of the Selengá and further towards the towns of Verkhneúdinsk and Selengínsk, to the landing-place of Biliúta in the direction of Kiákhta.

On the 23 June 1891, the present Emperor Nicholas II, on his way from the Far East crossed Lake Baikál an the steamer "Speránsky" from the landing-place Boyárskaya to the source of the Angará and further to Irkútsk.

With a view to comply with the Imperial command, relative to the establishment of uninterrupted railway communication from the Urál to the Pacific Littoral, surveys were conducted with a view to surmount the difficulties connected with the construction of a railway line round the Baikál,

skirting the lake from the south. The preliminary surveys, made by Engineer Viázemsky in 1888—1890, shewed the possibility of establishing a railway route from Irkútsk up the valley of the Irkút which, approaching the lake near the settlement of Kultúk, should proceed further along its shore to the landing-place of Mysováya and join the Transbaikál line. In order to straighten the line and to avoid the construction of elevated viaducts in the pass of Zyriánskaya Luká, formed by the Irkút breaking through the Zyrkuzún Chain, the construction of a tunnel of 1700 sazhens was projected. The total length of the line comprised 282 versts, at a cost of R. 25,000,000, or R. 80,000 per verst. In 1894, the expedition of Engineer Adriánov tried to take the line from the summit of the neighbouring mountains towards the headwaters of the rivers Olkhá, tributary of the Irkút, and the Krutáya Gubá, falling into Lake Baikál. From 1895 to 1896, the expedition of Engineer Doks repeated the surveys of Engineer Viázemsky, and made explorations in fresh directions, with a view to cross the Baikál Mountains and to approach the



The Baikal. Mole at the landing-place of Mysováya.

Baikál along the rivers Polovínnaya and Angasólka. All the surveys which have been made shew that the construction of this line offers great technical difficulties. The project of Engineer Doks included a tunnel of 3½ versts, with an estimated cost of R. 80,000 per verst, and a total length of 291 versts. In 1898, the expedition of Engineer Savremóvich again conducted surveys for the line round line Baikál in other directions.

The explorations made in the environs of the Baikal, within range of the projected Circumbaikal line, shewed the different nature of the country from Irkutsk to the settlement of Kultuk, and from the settlement to the station of Mysovaya.

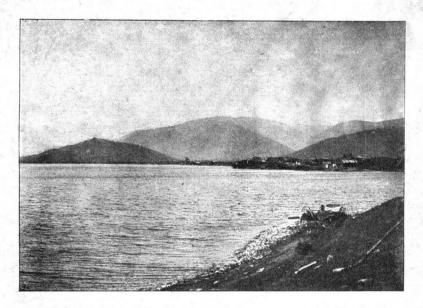
The first western section contains several valleys, which are favourably situated for the gradual ascent to the watershed of the rivers Irkút and of the rivers falling into the Baikál, allowing of the line being taken in different directions, whereas in the eastern section only one direction can be adopted, running along the shore and the valley of the Baikál.

With a view to establish the most advantageous route in the westere section, four directions were surveyed in 1898 by the expedition under Engineer Savremóvich from the Midsiberian line to the settlement of Kultúk:

1) Frem the station of Innokéntievskaya along the left bank of the Irkút

across the Zyrkuzún ridge to the settlement of Kultúk, or along the right bank of the Irkút approaching the station of Irkútsk.

- 2) From the station of Innokéntievskaya by the valleys of the Great Olkhá and the Krutáya Gubá, and further along the shore of the Baikál to the settlement of Kultúk.
 - 3) From the settlement of Belekutói situated at the 960 verst of the 11



The Baikal settlement of Kultúk.

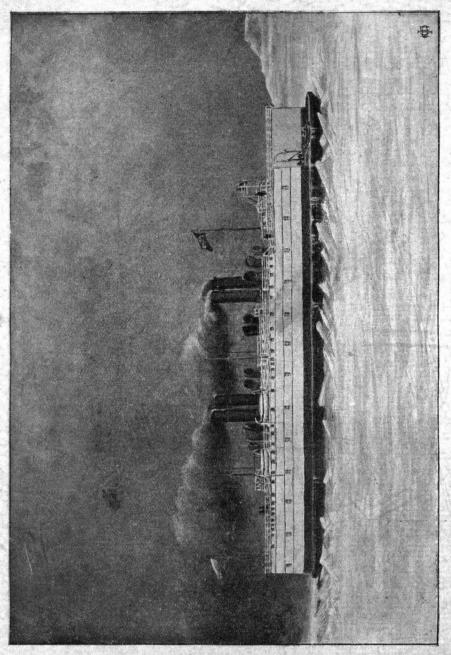
section of the Midsiberian railway line, across the Tunkín ridge, to the settlement of Kultúk.

4) From the station of Baikál a branch line to the Baikál, along the shore of the lake to the settlement of Kultúk.

Among these routes, the first, running from Innokéntievskaya to the station of Mysováya for a distance of 288 versts, and the last, along the Baikal to the station of Mysováya 243 versts in length, are considered the most suitable.

Final surveys of these two routes in connexion with geological explorations are being made, and the results obtained will serve to fix the precise direction of the Circumbaikál railway line. In the eastern section, admitting only one route, the line will run along the shore of the Baikál. Starting at the station of Kultúk, the line of the eastern section runs first through a swampy meadow, crosses the Kultúchnaya by a bridge and, traversing at the 3 verst the Shamán Cape, proceeds by a sandy valley separating Shamán from the Baikál. At the 9 verst, spurs of the Khamár Dabán, pressing closely to the Baikál, prevent the line belng taken along the shore; its course passes through cliffs stretching for a distance of a verst.

At the 11 and 12 verst, the line runs through the abrupt and steep Cape Kerkidái, protruding far into the lake and presenting a heap of fragments from the cliff. At this place, the Baikál is very deep near the shore, there is no strip of land near the water, and the Cape has to be traversed by a cutting at its narrowest point. Between the 31 and the 47 verst, the



mountain spurs retreat from the Baikal, forming an undulating plateau; here the line leaves the lake, skirts the settlement of Utulík and at the 47 verst

cebreaker on the Baikal.

again approaches the Baikal. From the 47 to the 55 verst, the line runs by a steep slope intersected by streams and springs and crosses the Snezhnaya, the largest river in the Kultúk-Mysováya section. At the 113 verst, the line traverses the Pereyémnaya within a verst of its mouth, through a locality contained between high capes, jutting into the lake. At the 118 verst, the fine enters a level plateau and follows the shore; at the 139 and 140 verst, it runs through the valley of the Mishikha, avoiding Cape Kliuev, and, at the 158 verst after having passed over the river Mysováya, turns abruptly and joins the Transbaikal line at the station of Mysováya. The total length of the eastern section is 162.04 versts: it is projected according to specifications adopted in level sections, but admits 4.1 per cent of curves with a radius of 150 sazhens and grades of .006. Part of the line in the eastern section has been in process of construction since 1899, for a distance of 40 versts from Mysováya to Pereyémnaya. The construction of this part of the line to the station of Perevémnaya, standing on the other side of the lake opposite to the station of Baikal, will offer a much shorter way for passengers and goods than the stormy lake.

The exploration of the mountainous country contiguous to the southern part of the Baikál basin, in connexion with the difficult technical conditions attached to the construction of an uninterrupted Great Siberian main line, evoked the scheme for building a special steam-ferry for the transport of trains over the Baikál, which was to be supplied with icebreaking appliances and should establish continuous steam communication between the terminus of the Midsiberian railway line on the Baikál and the starting point of the Transbaikál line.

The application in the old world of these means of transport for trains, as in the United States effected with the help of icebreakers, is entirely due to the initiative of Prince Khilkov, Minister of Ways of Communication, who first saw the advantage of applying icebreakers to Russian marine and river navigation.

The icebreaker "Baikál" was constructed at the works of Armstrong in England for the transport of trains over the Baikál. It was forwarded in separate pieces, which were put together on the shore of the lake. The fittings and the engines, boilers, water-pumping machinery etc. were made here. For the launching of the ship, stocks were built under and above the water; their construction offered great difficulties on account of the rocky shores and the frequent storms on the Baikál.

The icebreaker was put together by Russian workmen, who were partly brought from St. Petersburg. The general supervision of the construction of the icebreaker and of the docks was entrusted to the ship engineer Zablótsky.

The icebreaker is made of solid Siemens and Marten steel. Entire length 290 feet, beam 57 feet, draught 18 feet fore and 20 feet aft, speed 20½ versts. Displacement with full cargo 4,200 tons. The icebreaker is provided with three triple-expansion engines with a total of 3,750 H. P. Two engines are placed in the stern and are separated by a longitudinal water-tight partition; they work the propellers of the icebreaker. An engine in the fore part of the vessel serves to work the forescrew breaking the ice. The screws are provided with four paddles. There are 15 cylindrical boilers enclosed in two compartments divided by transverse water-tight partitions.

The icebreaker contains ballast distributed in different tanks between the double bottom of the ship and also fore and aft, holding 580 tons of water. The belt, on the water line, consists of steel plates an inch thick, the sheathing is even and with inner layers. With a view to stop the blows of the ice a gainst the hull of the ship and to render more solid its inner side, throughout its length at the level of the ice it is provided with wooden wedgeshaped chocks covered with longitudinal beams; thus the timber belt has a thickness of about 2 feet.

This icebreaker is somewhat like Nansen's famous "Fram", with stem and stern adapted for icebreaking, capable of forward and backward motion. It carries 25 loaded waggons placed on the maindeck on three pairs of rails laid along the axis of the ship; the cabins on the upper deck accomodate about 150 passengers. The ship breaks the ice to a depth of 4 feet. In addition to this icebreaker, which is the second in the world in size, another has been constructed at the station of Listvennichnaya. It has received the name of "Angará", and is smaller than the first. Length 195 feet, beam 34, draught 15 feet, speed 12½ knots. The engine is triple-expansion with 1,250 H. P.; there are four boilers on the locomotive type. The engine and boilers are also separated by a transverse watertight partition. The construction of this icebreaker will be completed in the autumn of 1900 It well serve mainly for the transport of passengers.

For the repair of this vessel, wooden docks have been built on the Baikal. The landing-places, Baranchúk on the western side and Mysováya on the eastern, are provided with protecting moles and dams.

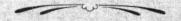
The cost of the whole steam communication, including landing-places, amounts to R. 5,621,000.

After the completion of the Circumbaikál line, which will connect the Midsiberian and the Transbaikál railways, the icebreaker might be employed with some success for purposes of navigation on the Baikál, and serve to develop trade and industry in the Transbaikál region, plentifully supplied with mineral wealth.

The measures due to the hydrographic expedition of Drizhénko have already much contributed to the progress of navigation on the Baikái. It established two beacons on the lake, which project their fight for a great distance over the stormy and unfriendly waters. One of the beacons stands on the Olkhón Strait, on the cliff called Mare's Head, at a height of 45 feet above the level of the Baikál. The other is placed at the mouth of the Selengá, rising 48 feet above the level of the lake. Both beacons burn with a white and constant light, reaching for a distance of 18—20 versts. They are lit every day, and burn from sunset to sunrise.

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The Transbaikál Territory.

Its geographical position and extent. — Configuration of the territory. — Hydrography and the progress of navigation. — Geological structure and mineral wealth. — Iron mines. — Coal mines. — Silver lead mines. — Copper and tin mines. — Mercury. — Precious stones. — Salts. — Mineral springs. — Climate. — Flora and fauna. — Historical review of the Transbaikál. — Population. — Peasants. — The Transbaikál Cossack troops and their organisation. — Natives: Tungús and Buriàts. — Town population. — Emigrants. — The Nerchínsk penal settlement. — Exile settlers. — Land tenure and exploitation. — Industries. — Agriculture and cattle-breeding. — Fishing. — Hunting. — Forestry. — Carriage by road. — Mining industry. — Domestic industry. — Manufactories and works. — Trade. — The orthodox church. — Lamaism — Public education. — Influence of the Siberian Railway upon the economic growth of the region. — Bibliography.

HE Transbaikal territory, forming part of the Amur-

territory under the administration of a Governor-General lies between 49°54° and 57°N, lat., and 72°18° and 91°7°E, long, and comprises an area of about 56.152,260° desiatins or 547,965 square versts; it surpasses in size Austria-Hungary, Germany and many other European countries.

For purposes of internal administration, the territory is divided into the following 8 very irregular districts:

1) Barguzínsk, 2) Verkhneúdinsk, 3) Selengínsk, 4 Tróitsko-Sávsk, 5) Chitá, 6) Akchínsk, 7) Nerchinsk, 8) Nerchínsk Works. On the west, this region is bounded by the government of Irkútsk, on the north by the Yakútsk territory, on the east by the

Amur territory coming up on the south-east to the boundaries of the Chinese Empire.

The whole surface of this territory is essentially mountainous, with the exception of the narrow steppe stretching between the rivers Onón and Argún. The Yáblonovy Chain, running through the territory from south-west to north-east, divides it into two almost equal plateaus; the north-western part of it bears the name of Baikál-Daùria, while on the south-east it is called Nerchinsk-Daùria after the "Daùrs", who were the former inhabitants of this country.

The Yablonovy Chain commences in the Chinese territory at the mountain masses of Kentéi. Upon entering the Transbaikal territory, it sends out the mountain-chain of Chokondó, rising to an elevation of 8,000 feet above the

level of the sea. The Baikál-Daúria presents a country which consists of narrow and level valleys, separated from each other by mountain ridges with uplands lying between. Many of these ridges rise to a considerable height above sea-level and some of their peaks, called "goltsy", reach the line of perpetual snow. Leaving these mountains, the Ulán Burgási stretches to the north and the Khamár Dabán to the south, bordering the southern bank of the Baikál, with its desert and steep cliffs. The Nerchínsk-Daúria has a more level surface. The Nerchínsk ridge, running in a long line from south to north with an altitude of from about 3,050 to 4,150 feet, forms the watershed of the river systems of the Argún and Shílka. The mountains of this plateau covered with thick woods, assume softer outlines, and are considerably lower than those of the western part of the territory. As they approach the Chinese frontier, the mountains become lower and the plains widen, especially along the rivers Argún, Onón and Agá beyond the limits of Mongolia, gradually passing into the desert steppe Góbi.

The water systems which enliven this region belong to the Baikál, Léna and Amúr basins.

The Selengá is the most important river in the Baikál basin; taking its rise in Mongolia, it crosses its boundary near Kiákhta and, entering the western part of the Transbaikál territory, waters its most fertile districts: Tróitsko-Sávsk, Selengínsk and Verkhneúdinsk. The total length of the Selengá is about 1,250 versts; it is navigable within Russian territory for a distance of 350 versts. Separating into several branches, it falls into the Baikál by a delta. At present the commercial traffic by the Selengá mainly consists of tea transport, amounting from 500,000 to 800,000 puds during the navigation season Thousands of puds of grain, barrels of spirit, wool and other produce are annually forwarded by the waterways. Upon the opening of traffic on the Great Siberian Railway, the Selengá will undoubtedly acquire a still greater importance as a trade waterway from China and Mongolia to Russia, although the greater part of the tea transport will be transferred to the railway. The Selengá is frost-bound from the end of October to the middle of April, the water level varying within the limit of a sazhen.

The bar at the mouth of the river is one of the chief impediments lying in the way of regular navigation. Small river steamboats and flat-bottomed barges of unsolid construction do not venture to cross the stormy Baikál whereas the vessels plying on the lake, having a deep draught, cannot enter the branches of the Selengá; for this reason, the goods are transferred from the river barges to the lake barges and back again at the junction of the river with the Baikál.

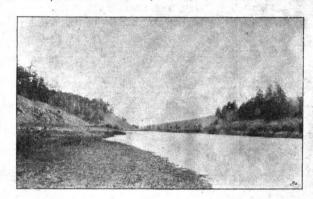
In 1894, navigation on the Selengá and on Lake Baikál was maintained by the Kiákhta Steamboat Company; at present, the company has stopped its operations and the whole fleet and the landing-places belong to the General Angará, Baikál and Selengá Navigation Co, belonging to the merchant Nemchínov. Four iron passenger tow-steamers with 20 to 80 H. P. and 18 wooden barges with a tonnage of 3,000 to 22,000 puds are kept by Nemchínov for navigation on the Selengá. The absence of competition leaves Mr. Nemchínov free to fix rates, which considerably exceed the real cost of transport by this waterway.

Within the confines of Mongolia, the Selengá receives two important tributaries: the Edingól on the left, and the Orkhón on the right. Entering into Russian territory, it is joined on the left by the rivers Dzhída, Temník,

aud Oronchái, taking their rise on the southern slope of Khamár-Dábán. The basin of these rivers has an essentially mountainous character with the exception of their lower reaches, which are suitable for agriculture and cattle-breeding. From the right, three large rivers: the Chikóí, Khilók and Udá taking their rise in the western slope of the Yáblonovy chain, fall into the Selengá

The Chikói, although having a rapid current, is navigable its lower reaches for a distance of about 250 versts. The valley of this river is most fertile, and has an exclusively Russian population. It also abounds in fish of various kinds.

To the north of the Selengá, the rivers Túrka, Barguzín and the Upper or Great Angará, taking their rise in the snow-covered peaks of



Valley of the Khilók.

the surrounding mountain ranges, discharge the mass of their waters into Lake Baikál.

The river Vitím, of the Léna basin, flowing for a distance of about 800 versts within the limits of the Transbaikál territory, receives many short and rapid streams from the mountains of the Yáblonovy chain.

The river systems of the Shílka and Argún, uniting their waters beyond the limits of the Transbaikál, belong to the Amúr basin.

The joint streams of the Onon and the Ingoda form the Shilka.

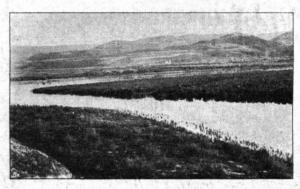
The former, taking its rise in the Kentéi mountains, flows along the high and steppe-like plateaus of northern Mongolia.

Entering the confines of the Transbaikal territory, it continues its course amidst treeless steppes and mountains. The latter, having a smaller basin, flows from the Chokondó mountain group, retaining throughout its entire course a thoroughly mountainous character.

The water of the Ingodá is extraordinarly clear and, for many versts after its junction with the Onón, the turbid waves of the Mongolian river do not mingle with the pure current of the Ingodá. The combined waters of the two rivers form the Shilka and continue their course along a narrow valley bordered by hills. The mountainous character of the Ingodá is retained by the Shílka throughout its entire course. With its steep and wooded banks and rapid current, the Shilka is one of the most picturesque rivers of the Transbaikal, the steep and lofty right bank being particularly beautiful. The total length of this river, from the junction of the Onón with the Ingodá to the mouth of the Argún, with which it forms the beginning of the Amúr, is over 500 versus, whereas the distance from Srétensk to the Amúr is 359 versts. The breadth of its bed varies but slightly and is on an average 150 to 200 sazhens. The current flows at the rate of 6 to 7 versts an hour. At the bars, which occur frequently and are 143 in number, it increases to 9 versts and more. On account of the stony and rocky bed, the bars never shift, and are not influenced by the tide.

The basin of the Shílka may be considered as navigable in its whole extent, but regular navigation is maintained only from Srétensk to the mouth of the river, a distance of 350 versts. From Srétensk to the village of Mitrofánovo, a distance of 150 versts, steamers ply and tow barges at intervals, this section not being included in the number of the obligatory trips, made by the Ship and Trade Amúr Company, subsidised by the Government. This inadequate development of the navigation is due to the lack of energy on the part of the Amúr Steamship Companies. Although forming part of the waterway of the extensive Amúr basin, the Shílka is not provided with a special fleet and the service is performed by the Amúr steamers.

The navigation on the Shilka lasts a little over 5 months, from the end of April to the beginning of October. The frequent fogs, which cover the river and hinder the passage of the steamers till 8 and sometimes 10 o'clock in the morning, are a great impediment to navigation. These fogs begin in July and last till the navigation closes. Under the influence of melting snows and abundant rainfall, the water rises sometimes 4 sazhens above its ordinary level; it however rapidly falls again and the river gradually becomes shallow, so that, almost every year the water communication is interrupted for about 20 days, during the navigation season.



Mouth of the Nércha.

About 20 versts from the head of its basin. near the town of Nerchínsk, the Shílka receives on the left the Nérfalling from the cha. high Váblonovy ridge. The Nércha has a considerable fall and a great number of rapids, which render the river unfit for navigation. The Kuengá is another important tributary, flowing in on the same side.

Among the right tributaries, the most important is the Kurengá. At its junction with the Shílka, near Srétensk, are the docks of the Amúr Steamship Company.

The other river forming the Amúr is the Argún, rising beyond the limits of this territory. Its head-waters are formed by the Kailár river, falling down the slopes of the Great Khingán, and connected with the lake Dalái-Nor. The Argún valley, in its upper part, presents a level surface. The bottom of the river consists of clay and mud, its depth is not considerable, and the current very slow. Along its middle course, the valleys pass into mountains mainly clothed with larch. Here the river bottom becomes hard, being composed of stone and sand. Within its lower reaches, where the depth is sufficient for navigation, stone ridges hinder the passage of steamers, which ply only for a distance of 50 versts above its junction with the Shílka.

Rafts, carrying mainly grain, move along the Argún, from the Cossack village of Argún. The most important tributary of the Argún is the Gazimúr rising amidst the heights of the Nerchínsk Mountains. Among the lake basins, besides the Baikál, are remarkable the mountain lakes Baúntskoe, Gusínoe, Sosnóvoe, Zun-Khargá and the steppe lakes Barún and Zun-Tarei.

The geological structure of the Transbaikál territory, which was carefully examined from a scientific point of view in connexion with the surveys conducted for the construction of the Great Siberian Railway, offers great variety. The geological expeditions of V. Obruchev, A. Gerásimov and A. Hedróitz, discovered the following geological formations in the Transbaikál: 1) post-tertiary alluvial, 2) carboniferous, tertiary and jurassic formations, 3) metamorphic slates. 4) lamellated crystalline rocks, 5) massive crystalline rocks.

The mineral wealth of the Transbaikál, including varied geognostic formations, is very considerable. This territory contains innumerable mineral

treasures, of which only a few are raised and partly exploited.

Iron ores are found at many places in the Transbaikal terrifory. The richest bed of magnetic iron ore is that of Balegínsk situated on the Zagán Dabán ridge, lying within 35 versts of the Petróvsk iron-works, on the left bank of the Baléga river. This mine has been worked for more than a hundred years, 8,000,000 puds of iron having been obtained during this period. Recent explorations shewed that the actual supply of ore amounts to 2,000,000 puds. It however may be supposed that it contains a still greater quantity. Another bed of magnetic iron ore is to be found along the river Bélaya, 4 versts from the Pétrovsk works, in the Zmeínaya Gorá or Snake Mountain.

Further, iron deposits occur: 1) in the valley of the rivers Udá and Kirengá; 2) on the northern slopes of Khamár Dabán, near the landing-place of Mysováya, on the right bank of the river Mysováya; 3) on the Zagán-Khuntéi ridge, near the crossing of the post-road; 4) near the station of Makavéyev-

skaya; 5) at four points in the Nerchinsk Works district.

Coal deposits were discovered in the Transbaikal in the middle of the XVIII century. More careful explorations have been made of late years with a view to meet the additional demand for coal occasioned by the construction of the Siberian Railway. According to recent data, coal-measures occur in the following districts:

1) Along the shore of the Baikál, at more than 20 points, with outcrops near the Baikál and in the valleys of the mountain streams falling into the lake.

The analysis of the coal, near the river Mishikha, shewed the following results: specific gravity 1.36, coke 40 per cent, volatile matter 50 per cent, ash 10 per cent.

2) At 9 points in the valley of the Ingodá. One of the beds situated on the left bank, near the village of Nóvaya Kúka, at a distance of 4 versts from the Siberian line, claims special attention, on account of the many practical advantages offered by its future exploitation.

The analysis of the coal in this district gave: specific gravity 1.38, coke

43 per cent, volatile matter 53 per cent, ash 4 per cent.

- 3) At 7 points in the valley of the Khílók.
- 4) At two points in the environs of Lake Gusinoe.
- 5) At 5 points in the valley of the Shílka.
- 6) At two points in the valley of the Argún.
- 7) In the valley of the Udá.
- 8) In the valley of the Chikói.
- 9) In the valley of the Onon.

The auriferous gravel of the Transbaikál territory has been worked from the year 1777, and the quantity of metal obtained increases every year. At present, part of the gold-mines belong to the Cabinet of His Imperial Majesty; the other part is worked by private persons and numbers about 185 mines. The total output of gold on the average amounts to about 228 puds annually; the half of this quantity being obtained from the mines of the Cabinet.

In the western part of the Transbaikál, the greatest number of gold mines are centred in the Barguzínsk district (81). In the eastern portion, the Nerchínsk district is the richest and contains 32 gold mines: 21 private mines, 11 belonging to the Imperial Cabinet. The western part of the region is far superior to the eastern in respect to the quantity of metal raised, and the abundance of the auriferous gravel.

Besides the gold mines of the Imperial Cabinet, the eastern mining district of the Transbaikál contains important private mines, belonging to the Daúria Gold Mining Company, to the Transbaikál Society of Vtórov and Co. and the Onón Company of Sabáchnikov Brothers.

Silver and lead mines occur at many places in the Nerchinsk Works district and belong to the Cabinet of His Imperial Majesty. They were discovered near the remains of Chud mines in 1689, and were chiefly worked from 1763 to 1768. Afterwards, the works were considerably reduced, on account of the inundation of the mines and economic considerations.

Among the 90 vein and nidus mines, only four are worked at present, yielding about 60 puds annually.

Copper deposits exist at several points throughout the Argún and Onón.

basins, but they have not been worked up to the present time.

Tin ores were discovered in 1811. They occur in the valley of the Little Kulindá, tributary of the Onón; near the village of Nízhni-Sharanéi; near the settlement of Zavitínsk, to the left of the Onón and on the right side of the Ingodá. The Onón mine was worked during 30 years; by order of the Government, small quantities of metal were obtained from it at various times. This locality is the only one throughout the Russian territory which affords "tinstone" or cassiterite, found in quartz veins, in grains or imperfectly formed crystals of a deep red-brown colour. In consequence of the bad organisation of the mining industry, the working of the copper mines stopped long ago. At present, thanks to their proximity to the Siberian main line, it may be hoped that the exploitation of the mines will be resumed and attended with success, and that the Onón tin, on account of its superior uqality, will enjoy the same renown in the world's market as the tin of the Malay and Sunda Islands.

Mercury was discovered in 1759, in the Ildikansk mine of the Nerchansk district; however as no success attended the working of the limestone veined with cinnabar, the exploitation of the mine was soon abandoned.

Precious stones occur frequently in the Transbaikál. Most remarkable is the granite mountain Adún-Chillón, rising between the rivers Onon and Onon-Borsiá, where topaz, beryl, aquamarine, Siberian topaz and other stones are plentiful. Garnets in small crystals are also found on the Onon, 85 versts from Nerchínsk; blocks of nephrite occur on the Onon and its tributaries.

Salt is obtained at the following works: of Selenginsk in the district of the same name, and in Tiránsk, Tróitsko-Sávsk district, where brine is obtained from salt lakes. Among salt lakes, there is only Lake Bórzinsk in the Nerchinsk Works district; the salt does not settle every year. Glauber's salt, employed in glass works, is got from the Dorinsk lakes in the Barguzinsk district. The total output of salt in the Transbaikâl amounts on the average to 40,000 puds annually.

There are a great number of mineral springs in the Transbaikal but they are as yet insufficiently explored. The most important are:

List of springs, t° Cels.	SITUATION.
	Chemically inert.
Türkinsk, 56,75°	In the Barguzínsk district on the south-eastern shore of the Baikál, near the village of Goriáchinskoe. A hospital under the direction of the Transbaikál board, doctor and assistant. The hospital contains 9 rooms and baths. The season lasts from April to September. This spring is considered as of some importance.
	Chalybeate springs.
Gazimúrsk	190 versts from Nerchinsk. The Gazimursk works, situated at a distance of only 11/2 versts, receives visitors. These springs are under the management of the Mining Department of the Nerchinsk district. Baths and bathing hou-
Stáro-Darasúnsk	ses. Season from the 1 May to September. 140 versts from Chitá, on the post-road. The season is from the 15 May to the 1 September. A doctor is appointed every year for sanitary inspection and attendance. The neighbouring village of Darasúnskoe contains suitable buildings for visitors and baths.
Mólokovs k	12 versts from Chitá, has only houses and barracks for the visitors, without any bathing accomodation or any other resources.
AU	valine and chalybeate springs.
Uliatúevsk	347 versts from Chitá, has two wooden houses for the accomodation of visitors and baths. The season is from the 15 May to the 1 September.
Chai	Sybeate and calcareous springs.
Yamórovsk 1,5°	In the Verkhneûdinsk district. Were opened to the public by an ukaz of 1896. A two-storeyed building is attached to the springs with a dining-room for 40 persons; there are a building for baths, and a bathing-house. Houses have been purchased with lodgings for the patients. Doc- tor and assistant.
Kúkinsk	45 versts from Chitá, near the village Nizhnekûkinskoe. Has 7 barracks. The season is from the 15 May to the 15 August.

Besides the above mentioned mineral springs, the following springs have been discovered during the latest explorations made along the Great Siberian line.

- 1) On the right bank of the Khilá, near the station of Mogzón, containing iron, various salts and natural carbonic acid
 - 2) In the Arshan valley, within 4 versts of the railway.
 - 3) In the valley of the Brian, 1 verst from the railway.

The climate of the Transbaikal territory is characterised by the same properties as that of the central and northern part of the Asiatic continent. It serves as a transition from the more typically continental conditions of the Irkútsk territory to that of the Amúr and Littoral regions.

The mean annual temperature, registered at the observation points throughout the region, is below—0° Cels. (In Tróitsko-Sávsk — 0.8, in Selengínsk — 0°.6, in Verkhneúdinsk—2°.3. In Chitá—2°.7, at the Nerchínsk-Works—3°.7, at the Petrovsk-Works—4°.6). The climate may be noted as very severe, especially when compared with the temperature of the corresponding latitudes in the same zone of European Russia.

This great difference between the above stated average temperatures and that of the Transbaikál, is explained by the elevated position of the greater portion of the region above the level of the sea, and by the very low temperature of the winter months. The annual range of temperature, that is to say the difference between the average temperature of the hottest month and that of the coldest, is far greater in the Transbaikál, than in any other country lying within the same latitude in European Russia, and is as follows:

		In January.	In July.	Difference.
	Tróitsko-Sávsk	25°.1	+ 18° 7	43°.8
11.	Selengínsk	26°.0	21°.8	47°.8
	Verkhneúdinsk	27°.8	19°.1	46°.9
	Petrovsk Works.	28°.1	16°.1	44°.2
	Chitá	27°,1	18°.6	45°.7
	Nerchínsk Works	29°.5	18°.5	48°.0
Corr	responding latitudes in I	European Russ	sia:	
	Warsaw	- 4°.3	+ 18°.5	22°.8
	Chernigov	6°.9	20°.3	27°.2

14°.2

230.2

37°.4

Urálsk

The essentially continental climate characteristic of the Transbaikál is only surpassed in the Yakútsk territory, where the annual range of temperature exceeds 60° Cels.

The temperature in the Transbaikal varies greatly during the space of a month. In summer, when the thermometer rises to a maximum of over 30° Cels, the air sometimes suddenly cools to a temperature below 0° Cels. There is no frost in July only.

In winter, the cold is often below 40° Cels. without interruption; the population of the Transbaikál is not however too severely affected by this excessive cold, thanks to the absence of wind in the winter and to the clear atmosphere. The rapid and sudden changes of temperature occurring during the space of 24 hours are much more unhealthy; they depend entirely upon the condensation of the clouds and on the rainfall.

The low mean temperature produces a phenomenon characteristic of the Transbaikál, consisting in a perpetually frozen soil.

According to observations made by Yachevsky, there are districts containing zones of frozen soil alternating with areas of unfrozen ground, as for example on the headwaters of the Chikói, containing warm springs with a temperature of $\pm 28^{\circ}$ C.

As stated by Yachévsky, the area of frozen subsoil gradually descends towards the south-east from the town of Turukhánsk to the headwaters of the Léna, and turning south, embraces the mountain range stretching along the western shores of the Baikál; mořeover, the frozen surface extends over the whole of the Transbaikál, from the estuary of the Selengá on the west, to the junction of the Argún with the Shílka on the east, and the Kulusutáevsk military post on the south. The depth of the frozen soil and the melting of its upper layers during the summer depend upon how much heat penetrates through the upper strata.

Another phenomenon characteristic of the Transbaikál climate consists in rivers and lakes freezing to the very bottom, observed during a snowless winter. The rivers freeze first at the banks, then at the bottom and in shallow places. As stated by Kriúkov, who studied the climate of the Transbaikál territory, the rivers in freezing form a belt of ice stopping the flow of the water and presenting a kind of bulwark across the river.

The amount of the rainfall, at different parts of the territory, varies from 20 to 30 centimetres, which is somewhat less than the amount of rainfall in European Russia. With respect to the quantity of precipitation, January and February are the driest months of the year, being generally snowless. The rainfall during the summer months, upon the whole, corresponds to that of European Russia. The abundance of rainfall during the period of vegetation, the cloudless and clear atmosphere, and the beneficial effect of the sun's rays contribute to the development of agricultural industries, in spite of the perpetually frozen soil.

The flora of the Transbaikal territory presents two different types under the influence of soil and climate.

In the part of the Transbaikál, situated between the northern slope of the Yáblonovy ridge and the Baikál, the vegetation has the character of the mountain flora found at the eastern extremity of the Altái Sayán mountains.

On the south-eastern side of the Yablonovy chain, the flora changes and includes species proper to the extreme east of the temperate zone of the Asiatic continent.

The monotonous fir forests, covering vast areas in the western part of the Transbaikal, are mingled, in the east, with foliage trees partly belonging to the species which cease to occur in Siberia beyond the Urál: oak (Quercus mongolica), elm, (Ulmus campestris), hazel (Coryllus heterophyla) and wild apple (Pyrus baccata). Characteristic specimens of the Mongolian and Amúr flora occurring in the eastern part of the Transbaikál, together with some forms from the Asiatic continent represent the vegetation of Transyàbloniya or Daúria, and compose the Daúrian flora. Many species of bushes found also in Mongolia are particularly characteristic, such as Daúrian sallow-thorn (Rhamnus dahurica), a variety of the same, (Rhamnus erythroxylon), wild almond, (Amygdalus pedunculata), wild apricot, (Prunus sibirica); a kind of wild rose (Rosa alpina) a kind of tamarisk (Myricaria longifolia) and others. Yáritsa or spring corn, which covers the greater portion of the tilled land, and represents the principal food of the population, is the cereal mostly cultivated in the Transbaikál. This corn is of the best quality, its full and large grains in size and weight are not inferior to wheat. The latter is also extensively cultivated and occupies about 14 per cent of the total cultivated area; the quality of the wheat is very good, yielding sometimes very abundant crops of about 270 puds to a desiatin, with a thirtyfold increase. The oats sown in the Transbaikal are also of superior quality, and of the same kind as that cultivated in the central European zone. Oats cover from 10 to 15 per cent of the total cultivated area, while barley is sown on 4 to 7 per cent, of the total area. In the western part of the Transbaikál, buckwheat and millet occupy a comparatively small portion of the land; but in the east buckwheat holds an equal place with wheat. The cultivation of winter-rye is insignificant, on account of the insufficient snow-cover.

All rhizocarpic plants and vegetables of various kinds shew a luxuriant growth in this region.

The fauna of the Transbaikál territory assumes many various forms and contains, besides the species characteristic of the whole of Siberia, the steppe animals of Mongolia and some forms found in the Amúr and in the Littoral countries of the Asiatic continent. The Siberian fauna, occurring almost throughout the whole country, keeps preferably to the west and northern parts of the territory, while the steppe animals are to be found in the south-eastern part, between the rivers Argún and Onón.

Among the mammals (Mammalia) the most common are:

Carnivora—wild cat (Felis manul), lynx (Felis lynx) rare in the territory, tiger (Felis tigris), at times wanders from China without staying in this region; wolf (Canis lupus), polecat (Foetorius altaicus sibiricus), ermine (Foetorius altaicus), weasel (Foetorius vulgaris) and sable (Mustella zibellina).

White sable occurs in the Barguzínsk district; it is very rare and precious. Steppe fox (Canis corsac), bear (Ursus arctus), and badger (Meles taxus) met with mostly along the banks of the Selengá, glutton (Gulo borealis), otter (Lutra vulgaris).

Pinnipeds: seal (Phoca baicalensis) which, sometimes leaving Lake Baikal goes up the Selengá to the town of Selengínsk. They are killed by the local inhabitants during the summer from the end of June, their skins being used for making very expensive seal overcoats called "dokhá".

Rodents (Glires): "letiága" (Pteromys volans), squirrel (Sciurus vulgaris). The Nerchínsk, Zakaménsk and Barguzínsk squirrels are considered the best, and above half a million are taken every year; striped squirrel (Tamias striatus).

Siberian marmot (Spermophilus Eversmanni), rat (Mus documanus), mouse (Mus musculus, silvaticus, agrarius, minutus), water-rat (Arvicola amphibius), harvest-mouse (Arvicola ratticeps, obscurus, rutilus, rufocanus) occur principally in the countries contiguous to Mongolia, hare (Lepus jaculus sive mongolicus. Springhaase Brehm), (Lepus variabilis), (Lepus totai), hamster (Cricetus furunculus), creeper (Lagomys hyperboreas).

Pachyderms—(Pachydermata): wild boar (Sus scrofa) found in the valleys of the Khilók and Chikói and close to the Baikál. Ruminant animals—(Ruminantia): elk (Cervus alces) plentifully represented throughout the region, the roedeer (Cervus elephas) occurs all over the country, the horns are sold in China where they are employed as medicine; the deer (Cervus tarandus), the roe-buck (Capreolus pygargus), the musk-deer (Moschus moschiferus), inhabits preferably the south-western part of the region; the wild goat (Aegocerus sibiricus) is only found in the most desert forests.

The two-humped camel (Camelus bactrianus), domesticated by the natives is employed for the cultivation of the land and for carrying burdens: the horse (Equus), the wild horse (Equus tarpan) or "dzhigitái" principally dwelling in the northern part of the Góbi and Tibet deserts; within the limits of the Transbaikál region, it occurs only in its southern part along the rivers Gazimur and Onón Borziá. These horses live quite like wild animals and are the object of a peculiar and very interesting mode of hunting carried on by the natives. They kill only the stallions, using their flesh as food, and consider the tail to be an infallible remedy against sickness in animals. For this hunt, the native chooses an isabel or light-bay mare and, riding in the middle of the steppe, fastens his horse and lies down in the grass. Perceiving the mare, the flery dzhigitái rushes at her, believing her to be a mare of his own species but, remarking his mistake, stops short and at this moment is killed by the hunter.

The bird species are particularly numerous, reckoning about 328 varieties; 240 of them are common to Europe, 43 to Japan, India, the Sunda Islands and Australia, and 45 belong strictly to Eastern Siberia. This great number of birds is plentifully represented only in summer, in winter the ornithological fauna consists barely of 50 species of European and Siberian birds, all the rest flying southwards across the Mongolian steppe. The arrival of the birds from their warmer sojourn commences at the beginning of March. Choosing their way along river valleys and lakes, avoiding mountain ranges, they fly across a country situated between the Angará, the Baikál and the Toréi-Nor; this locality is separated by the chain of the Kentéi mountains, which divides the flight of the birds into a north-western and north-eastern stream. The passage across the desert of the Mongolian steppe is very trying to the birds. Upon reaching Dauria, they take a rest and regaining strength resume their flight to the north. The animation of the bird fauna reigning in summer declines at the beginning of August, when part of the birds are ready to migrate. The cranes (Grus virgo) open the migration, forming regular triangles and, steering with harsh screams towards the lonely Mongolian steppe. The backward migration of the birds is not of long duration and closes at the beginning of October.

As far as concerns snakes and reptiles, not frequent in Northern Siberia, they are rather abundant in the Transbaikál. Besides the harmless snake (Coluber rufodorsatus) and the common viper (Vipera berus) there are venomous snakes, belonging to the family of rattle-snakes (Crotalida) and two

forms of trigonocephals (Trigonocephalus intermedius Strauch and Tr. Blom-

homffii Boje).

The ichthyological fauna is particularly abundant and various. The division of the fauna which is observed throughout the country is still more evident among the fish species. The Northern fauna and the fauna of the Amur present a marked difference, having only seven species in common: Lote (Lota vulgaris), salmon (Salmo fluviatilis), umber (Salmo caregonoides), salmon trout (Phoxinus revularis), char (Phoxinus perenurus) "pitálka" (Cobitis toni), and "pishchúkha" (Cobitis tacnina). All the other forms belong either to the northern species, exclusively dwelling in the Baikál water system or to the species of the southern Amur region, found in the Onón, Ingodá, Shílka and Argún rivers.

Among the domestic animals, may be mentioned the Transbaikál horse;

it is small, very hardy and not particular in its food.

The historical past of the Transbaikal territory points to the fact that the Tungús or Daúrs and the Mongols were its original inhabitants. It is here, on the banks of the Onon, that was born their famous chief Chingiz-Khan, whose name, to the present day, is held in great veneration, and to whom are attached many legends handed down from one generation to another. The Russians discovered Dauria on their way to the East in search of furanimals. In 1644, sixty-three years after Yermak had taken the capital of Kuchum lying on the banks of the Irtysh, the Russian militia entered the Transbaikál under the command of their leader Skorokhódov. This was the first time the Russians penetrated into the region and beyond Lake Baikal. In 1647, a detachment of Yeniséi Cossacks, under the command of Kolésnikov, founded the first Upper Angará stockaded post in the Transbaikál. In the following year, a nobleman's son Gálkin established the Barguzínsk post in order to oblige the Buriats and the other natives to pay a tribute in fur called "yasak". From this time began the gradual and parmanent colonisation of the country. The Udínsk stockaded post was established in 1649. In 1658, the first voyevóda Páshkov founded the town of Nerchínsk and in 1666, the Selengínsk post was established by order of the voyevóda Tolbúzin, with a view to protect the Russian settlements from the invasions of the Mongols. The first settlers of the Transbaikal belonged to the military class and were sent there in order to promote the Russian dominion, and were voluntary settlers as at the present time. In 1681, the Trinity and the Posólsk monasteries were built in Selengínsk and on the shore of the Baikal with a view to satisfy the religious requirements of the Christian population and to promote the orthodox missionary movement in the East. In the same year, the first ecclesiastical mission was established in the Transbaikal for the conversion of the natives. Very soon, this region was chosen as a place of exile for criminals, particularly with a view to colonise this distant country.

The famous dissenter, the protopóp Avakúm, was the first exile to Daúria; later on, the Cossack Hetman Demián Mnogogréshny was sent there; his life in Dauria was usefully employed for the benefit of the country. The regular exile system was established on the 12 March, 1722, by an Imperial ukaz stipulating that the convicts, reprieved from the death penalty by manifesto and condemned to distant exile with their wives and children, were to be sent to the silver mines of Daúria.

From the time the Russians took possession of the Transbaikál, this region became the centre of a lively intercourse with China, affording the

shortest way for all commercial relations with the adjacent countries. The embassy of the Illyrian Count Sawa Wladislawowicz Raguzinski, which began in 1726 and terminated in 1727 by the treaty of the 20 August, fixed definite boundaries between the two countries and established trading laws for China, which were very important for the Kiakhta market; at the same time, Count Raguzinski founded the Novo-Troitskaya fortress on the river Kiakhta which is now the town of Troitsko-Savsk, and established a trading village on the frontier line.

The Transbaikál territory, which formerly was included in the government of Irkútsk, has existed as a separate province with an internal administration of its own since the 16 August, 1851. The visit of His Imperial Majesty, the present Emperor Nicholas II who, during his journey to the Far East, in 1890—1891, stayed in this country from June 10 to 22, is an important historical event reverently remembered by the entire population.

Upon entering this territory on the 10 June, His Imperial Majesty arrived, by the Shílka at the station of Srétenskaya on the steamer "Véstnik"; on the 14, he arrived with His suite at Nerchínsk, one of the most ancient towns of the territory, and on the 22 traversed the country to the Mysováya station



Buriát types (phot. by Máslov).

whence, taking the steamer "Speránsky", His Imperial Majesty continued his journey by the Baikál and the Angará to Irkútsk. The population of the region may be said to comprise the following three classes: the peasants, the Cossacks and the natives. Citizens, military, convicts and exiles form the smallest portion of the population.

The peasants are principally settled in the Selengínsk, Verkhneúdínsk and Chitá districts. Part of them belong to the orthodox church and part to the sect of the Old Believers; the latter are called "seméisky". Both draw their origin from the voluntary settlers; the greater number however are descended from exiles from European Russia: the orthodox exiles were principally banished for different crimes, while the "seméisky" suffered for their religious belief, and received this characteristic popular name, because, unlike other exiles, they went into banishment accompanied by their families.

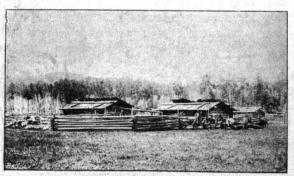
The Cossacks principally occupy the land lying along the frontier; at many places however, their settlements alternate with peasant villages. The Cossacks inhabit the valleys of the river Dzhidá, the lower reaches of the Chikói, the Onón, the Ingodá, the Shílka and ail the eastern portion of the territory.

The natives are represented by the Tungús and Buriáts. The former occur only in three districts: Chitá, Seienginsk and Barguzínsk, the latter are irregularly distributed all over the country but mostly in the districts of Selenginsk, Verkhneúdinsk, Chitá and Barguzínsk.

The first census of 1897 shewed a total population of 664,071, settled in the following districts:

		Population by the census of 1897.					Density of
DISTRICTS.	Square versts.	Village.	Town.	Total population.			popula- tion per
				Males.	Females.	Total.	squ. verst.
1) Danssada I	144.401	22.260	1 400	11.004	11 501	20.40.4	0.15
1) Barguzínsk	144,401	22,263	1,432	11.904	11,791	23,695	0.17
2) Verkhneúdinsk	112,514	159,773	5,881	82,448	83,206	165,654	1.59
3) Selengínsk	30,305	101,214	1,093	51,002	51,035	102,367	3.37
4) Tróitsko-Sávsk	19,175	23,263	9,213	16,009	16,467	32,476	1.69
5) Chitá	112,746	130,048	11,106	75,502	65,562	141,154	1.39
6) Akshínsk	32,373	30,664	1,679	15,750	16.593	32,243	0.99
7) Nerchínsk	38,193	84,393	6,419	47,090	43,727	90,817	2.37
8) Nerchínsk Works	58,258	75,625	-	39,017	36,608	75,625	1,29
Total	547,965	627,248	36,823	338,722	325,349	664,071	1.27

In proportion to the whole area of land, the most thickly populated is the district of Selenginsk; then come the Nerchinsk, Tróitsko-Sávsk, Verkhneúdinsk, Chitá, the Nerchinsk Works, Akshínsk and Barguzínsk districts. However, the density of the population is inferior to all northern governments of European Russia, with the exception of the Archangel government which



Buriát village.

has a population of 0.5 to the square verst. The Russians predominate amont the population, forming 64.7 per cent of the total, then come the Buriáts representing 30.4 per cent, the Tungús 4.5 per cent, Tatars and Jews 0.4 per cent.

The Cossacks, forming over 30 per cent of the total population, constitute the military class gradually formed by represen-

tatives of the Lative and Russian population. In the middle of the XVIII centu-

ry, when the colonisation of the Transbaikál was enlarged by a contingent of exiles and the Siberian Cossacks were entrusted with the protection of the frontiers, a Tungús regiment of 500 men was formed from the local Tungús and Buriáts and added to the Siberian Cossacks with a view to strengthen the military force. In 1764, 4 regiments of 600 men each were composed of

the Selenginsk Buriats. All these regiments were stationed on the frontier. According to a statute issued on the 17 March, 1851, relative to the organisation of the Transbaikal Cossack troops, the frontier and the stanitsa (village) Cossack troops, descendants of the Siberian Cossacks and the new-comers from



Buriát winter dwelling.

Russia, as well as the Tungús and Buriát regiments, were included in the contingent of the Transbaikál Cossack troops. In 1854 part of the Cossack regiments, representing a male population of about 50,000, was transferred to the Amúr region in order to increase its population: thus the Cossacks of the Transbaikál troops formed the foundation of the Amúr and Ussúri Cossack troops. At the present time, the military class comprises a total of 200,000 dissenters and sectarians and over 28,000 Lamaists.

With respect to their total number, the Transbaikal troops hold the fourth place among the II regiments, which may be classed in the following order:



Buriát summer camp.

the Don, Kubán, Orenbúrg, Transbaikál, Terék, Siberian, Urál. Astrakhan Semiréchensk, Amúr and Ussúri regiments. In wartime, the Transbaikál Cossacks are under the obligation to furnish 3 horse regiments of 600 men each, 6 battalions of foot of 500 men, 3 horse-

artillery batteries, with six guns, a total of 234 officers, 9,319 privates and 4.050 horses. In time of peace, half of this contingent is discharged

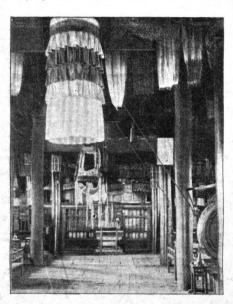
All the land allotted to the use of the army, comprising a total of about 3,000,000 desiatins, is under the management of the community, represented by the population of the Cossack village or stanítsa and by every sótnia or hundred soldiers. The number of sectarians known under the name of, "seméisky" amounts to 27,990 among the peasant and Cossack population. Among the native tribes of the Transbaikál, the Tungús mostly profess Shamanism; the number of Christians is very small. The former occupy themselves with breeding reindeer and with hunting and pay their tribute or yasák in furs.

The Buriáts, whose local Russian name is "Brátskie" (fraternal), are either Buddhists or Lamaists; they speak the Mongolian language but formerly, having no alphabet, possessed no literature, which has existed only from the time they embraced Buddhism. It consists mainly of spiritual books translated from the Tibetan language. The Bandido-Khambá or Khambá-Láma is the religious chief and first representative of the clergy; the Lamas repre-



The datsan (monastery) of Lake Gusinoe.

sent the common priesthood. The dwelling-place of the Khambá-Láma, who is officially confirmed by the Russian Government, is the "datsán" or monastery situated within 25 versts of the town of Selengínsk, near Lake Gusínoe,



Interior of a datsán (phot. by Máslov).

which the Mongols call Gelung-nor or Lake of the Priests. The datsan resembles a small town, containing a three-storeyed temple of Chinese architecture, near to which are 17 small wooden one-storeyed temples with Buddhist cupolas, called "sumé"; each sumé is consecrated to a special "burkhán" representing the object of worship. A whole set of neat little houses clusters around the datsán; they are inhabited by some hundreds of lamas and by over a hundred "khuvárka", Buddhist seminarists educated in the school of the datsan. In this school, which has a course of study of ten years, they learn the prayers, the Tibetan theology, the literature of Tibet and Mongolia, Tibetan medicine, astronomy, astrology and Buddhist philosophy.

The Buriáts are mainly engaged

in cattle-breeding and for this purpose mostly dwell on steppe lands. They are under the management of a special native hereditary administration.

The comparative scantiness of the town population (36,823 in seven towns) points to the still insufficient development of trade, industry and manufacture. As to the peasant emigration from Russia, it hardly contributes

to the increase of the population in this territory; the emigrants generally pass through the country on their way to the Amúr, and only a small number of those eastward bound stay in the Transbaikál territory.

The class of convicts and exilesettlers plays a particularly important part among the population.
Prisons and exile exert a pernicious
influence upon the local life of the
Siberian governments and have a
most evil influence upon the inhabitants of the country. The exile
convicts and the exile settlers form
3 per cent of the total population.
Special prisons are designed for the
accomodation of the exiled convicts,
concentrated in the Nerchínsk Works
district and in the regions of Zerentúi and Algachí.

The first district contains 4 prisons: the Zerentúi, Máltsev, Kadaínsk and Kutomár prisons.

The second division comprises the prisons of Algachí, of Pokróvsk and the Alexander poorhouse for old exile settlers. The Akatúi prisons for political prisoners is under the management of the Nerchinsk Penal Board.



Lama at the entrance of the prayer-house in a datsán (phot. by Máslov).

The population of all these prisons varies from 2,200 to 2,700. The convicts are employed in work entrusted to them by the Mining Department and receive one tenth of the value of their work; moreover they discharge all ordinary household and other duties.

After the completion of the hard-labour sentence, the convicts pass to the stage of exile-settlers, and present an improvident, dangerous and thrittless element which lies as a heavy burden upon the whole of the population.

The total number of exile-settlers throughout the territory is 17,000; the dwelling places of one-third of them is unknown. The tenure and exploitation of the land is not regulated in the Transbaikál, as no proper boundaries have yet been traced. This however constitutes one of the chief anxieties of the Government, occupied with the welfare of the country.

According to the calculations of Strelbitsky, the territory covers a total area of 56,152,260 desiatins of land, excluding 54,410,323 desiatins of water The area of settled land is 14,826,925 desiatins.

Thus only 27 per cent of the total area of land in the Transbaikál is cultivated, while 40,000,000 desiatins are lying vaste. This immense area of unoccupied land is hardly explored to the present day; it is mostly covered with dense forests and rocky mountain ranges, but undoubtedly contains localities which are fit for colonisation.

The greater portion of the settled land, 45 per cent, belongs to the natives; the Cossacks own 35 per cent, the peasants 12 per cent. The rest forms

the property of His Imperial Majesty's Cabinet, of towns, of monasteries and of the former peasants of the metallurgical works.

The division of the land, not being regulated, is very unequal among the various groups of the population; many possess an excess of land, whilst others have too little. This irregular distribution occurs more frequently

Interior of the school in a datsán.

among peasants and natives; the first possess from 8 to 32 desiatins to every male member, the second even much more.

The chief industries and occupations of the population are represented by agriculture and cattle-breeding. The considerable elevation of the country above the level of the sea, its mountainous surface, the gravel soil and severe climate have a most unfavourable influence upon the general development of agriculture in the country.

Under these conditions, agriculture requires much practical experience and labour. The Russian colonist settled in an unknown land, with peculiar conditions of soil and climate, has to adapt his husbandry to them, and to abandon many of his original customs, changing his mode of life and in many things imitating the half savage native nomad.

The fallow land system, varying

in accordance with the climate and soil, predominates throughout the territory. There is no improved agricultural machinery and the land is mostly

tilled with the help of ordinary two-wheeled ploughs and harrows of very primitive construction. The most abundant crops of yaritsa, wheat, oats, buckwheat and barley are raised in the Nerchínsk and Akshínsk districts; the average crops for yaritsa are 4.7-fold, for wheat 4.6 fold, for oats 5.1-fold, for buckwheat 7.3-fold, and for barley 4.7-fold. With the gradual development of agriculture in the



Masks of lama images used in mysteries.

Transbaikál, the the area sown with spring-wheat and oats widens from year to year.

For some time past, the public commissariat was an object of solicitude for the Government, but now the conditions are so far changed that the Transbaikal may serve as a granary for the gold-mines of the adjacent Amúr territory.

After the completion of the Great Siberian main line and with the general rise of the economic life in the region, agriculture will make still greater progress as regards the expansion of its area, and the technical improvement of the modes of cultivation and the systems of husbandry.

Being provided with vast pastures, the Transbaikal offers particularly favourable conditions for cattle-breeding, which has a very important economic significance as the principal feature of industry, upon which depends the welfare of the natives.

Horses, cattle, camels, sheep, goats and swine are the domestic animals reared by the inhabitants. The horses of the Transbaikál belong to the local stock and only very few are obtained by crossing with stallions brought from Western Siberia or, as within the last 4–5 years, from the stables of the Imperial studs in Russia. The cattle is also home-bred, and the camels yaks buffalos, sheep, goats and swine come exclusively of the local stock.

The number of cattle belonging to the inhabitants is distributed in the following proportion:

DISTRICTS.	Horses.	Cattle.	Sheep.	Goats.	Swine.	Totals.
Barguzínsk	16,396	78,213	58,271	1,701	705	155,286
Verkhneúdinsk	144,839	338,054	280,596	29,362	48,664	841,515
Selengínsk	79,120	196,936	191,138	44,641	15,485	527,320
Tróitsko-Sávsk	16,492	27,487	42,287	9,618	9,878	99,762
Chitá	161,419	371,928	331,140	51,679	19,860	916,026
Akshínsk	76,661	111,857	174,717	22,041	9,787	395,063
Nerchínsk	79,817	109,678	74,927	11,077	24,651	300,150
Nerchínsk Works.	53,554	70,960	48,266	7,591	15,726	226,057
TOTALS	628,288	1,305,115	1,201,342	178,090	138,756	3,451,69

The number of camels in the territory is about 9,650; most of them belong to the wandering natives of the Chitá district.

The inhabitants possess a total of 3,550,519 head of cattle, including camels. The cattle are kept in herds. They as not looked after and, feeding all the year round on the pastures, are exposed to bad weather, to the danger of epizootic diseases, to wild beasts and other dangers.

The animal produce not only serves as a help to the population but often represents the sole source of their welfare.

Meat is exported from the Transbaikál to the government of Irkútsk, to the Amúr territory and the gold-mines; the hides are forwarded to the government of Irkútsk and part of them is employed for packing tea boxes. Wool and fat are also articles of export.

Fishing is chiefly practised on the shores of the Baikál and in the estuaries of the rivers Selengá, Barguzín, and the Upper Angará. The omul, predominating in this industry, is salted without delay immediately after being caught, and sold by the fishmongers in the government of Irkútsk. The temporary rules for fishing, which as an experiment were introduced by the Amúr Governor-General in 1895, somewhat diminished the shameless extermination of the fish, by regulating its capture and submitting it to control.

Hunting is a profitable occupation of the local wandering and nomad natives, principally carried on in the desert and wooded mountain ridges to



Transport of tea.

the north of the Transbaikál. This industry is also pursued in the upper parts of the rivers Dzhidá and Témnik, south of Lake Baikál, on the mountain masses of Kentéi and on the southern chain of the Yáblonovy mountainsnear the sources of the

Chikói, Ingodá and Onón. The squirrel is the most important animal hunted. The sable is hunted with dogs, which are trained to follow its traces. The best sable are to be found on the highest mountain summits; their capture offers many difficulties. The maral is also much hunted at the end of May and the beginning of June, on account of its horns called "pánty" which are sold in China at a considerable price.

Average horns weigh from 10 to 12 pounds, but they sometimes attain a weight of 30 pounds; they are sold on the spot for R. 3 to R. 5 a pound. All th produce of the chase is generally sold at the local fairs, or bought up by traders, traversing the countries where the industry is most extensively developed.

Forestry is carried on almost throughout the Transbaikal, and consists in cutting down and floating the timber. The gathering of "cedar" nuts is closely connected with this industry, and is pursued in the south-eastern and southern parts of the



Transport of tea.

region. The Yáblonovy mountain ridge, specially at the head-waters of the Ingodá and Chikói are the centres of it.

Carriage by road, constituting an important source of income to the population from the landing-place of Mysováya to the station of Srétensk, and along the highway from Kiákhta to Mysováya and Irkútsk, must necessarily be reduced by the construction of the Siberian Railway, which will carry the greater portion of the goods in transit through the region from the confines of the Amúr basin and Manchuria.

The inhabitants have another source of profit in the gold-mines, which are situated within the territory and in the adjacent Amúr country. This branch of industry will surely receive a further development in the near future under the influence of the railway. Till the present time, the expensiveness of the necessary machinery and technical appliances and the high

prices of all commodities beginning with food products have stood in the way of the proper development of this branch of industry; the establishment of easy and cheap transport and the flow of fresh capital will contribute to



View of the town of Troitsko-Savsk.

the working of auriferous areas which formerly were considered as unfit for exploitation.

The opening of the great steam communication will also exert its influence upon other enterprises and increase the demand for workmen. According to statistical data, about 15,761 households are not occupied with agriculture but earn their living by different other pursuits. This number forms 16.8 per cent of the total of the hovseholds in the Transbaikál, obtaining an annual income of R. 1,500,000.

Domestic industry is hardly developed and meets only local requirements; it is chiefly exercised by the natives, producing small articles of wroughtiron such as stirrups, horseshoes, knives etc., and articles of cast copper; bells, idols etc.

The natives prepare coarse cloth and felt from wool.

Manufacturing industry is at a very low stage of development in the Transbaikál. Excluding the mining and gold-mining industries, its annual business hardly exceeds R. 1,500,000.

The demand for manufactured articles is supplied by produce imported from European Russia, which is also required in Mongolia and China.

Distilleries yield the greaterst annual output.

The greater number of factories and works is centred in the Nerchinsk, Tróitsko-Sávsk and Chitá districts, mainly in the towns. Among them, the most important are: the stearine manufactory of Osókin and Co., who also possess a soap-boilery in Kiákhta, and the cement manufactories, principally of the Amúr Cement Company, built in 1865 on the Shílka, near the settlement of Kokertói and near the railway station of Bayán.

A chemical industry for obtaining salt from "guzhír", which is a mixture of different kinds of salts containing mostly sulphide of soda, is being established in the district of Barguzínsk.

Trade iu the Transbaikál is characteristic of all Siberian governments and territories. Exporting exclusively raw produce, the territory receives in return different manufactured articles from European Russia and from abroad.

Commercial transactions are carried on at the fairs. The Verkhneúdinsk fair is held from the 18 January to the 1 February, the Spáso-Preobrazhénie fair, in the village of Chertokvínskoe, near the mouth of the Selengá (from the 1 August to the 20 September), the Argínskaya in the Chitá district (from the 1 to 6 December), and many others of inferior importance, which take place in some nomad villages and other places with a view to exchange animal and hunting produce for articles essentially needful in agricultural and nomadic households. The total turn-over of these fairs amounts to R. 7,000,000. The most important is the Verkhneúdinsk fair, with a business exceeding R. 4,000,000.

The special importance of the Transbaikal consists in the share it takes in the foreign transit trade with China and Mongolia, due to the communi-



View of Kiákhta.

cation through Irkútsk and Kiákhta, and in the barter of produce at the places situated along the frontier of the Akshínsk district, suchas Zurukhaitúi, Abagatúi, Zagan-Alúi etc.

Out of the total imports of tea into the Russian Empire, amounting to 2,500,000 puds annually, 1,720,000 puds come from the Asiatic frontier and are mostly carried through Kiákhta. This great movement of goods in transit, after the completion of the Great Siberian main line, will mostly be transferred to the railway. At the same time, the barter trade will be enlivened throughout the Asiatic frontier by the opening of fresh markets and the production of new articles for export to China and Mongolia.

There are four monasteries in the territory, in order to meet the spiritual requirements of the orthodox population: the Bogoródsk nunnery in Chitá, the Chikói monastery of John the Baptist, in the Verkhneúdinsk district, the Selengá monastery of the Holy Trinity, with an antisectarian mission, in the village of Ilínskoe of the Selengínsk district, and the Posólsk monastery of the Transfiguration of Our Lord, in the village of Posólskoe of the Selengínsk district. The territory contain 268 parish and registered churches; 242 of them are distributed all over the vast country. The insufficient quantity of orthodox churches, and their distance from centres of population is particularly evident, when their number is compared with that of the settled localities which are

about 1435 in number, and with the total orthodox population forming about 60 per cent of the whole population, viz. 40,0000.

The brotherhood of the Saints Cyril and Methodius and St. Innocent, the Miracle-worker of Irkútsk, has started its operations within the confines of the territory.

Upon the construction of the Great Siberian Railway, part of the Emperor Alexander III fund has been employed to satisfy the spiritual needs of the population: in the Chitá district, a church will soon be finished in the settlement of Shundúi, and another is being built in honour of St. Nicholas the Miracle-worker in the settlement of Karkasár, lying in proximity to the rich Buriát datsán of Zangól; in the Nerchínsk district, a church is in course of construction in the settlement of Bókhtin; in the Nerchínsk Works district, the construction of a church was begun on the 28 September, 1898, in the village of Zolotonósha in honour of the image of Our Lady of Smolénsk; new churches are either built or in process of construction at the stations of Mysováya, Khilók, Magzón and Chitá.

For the spiritual needs of the Lamaists, 32 datsans were established by the law of the 15 May, 1853, containing a fixed contingent of priests.

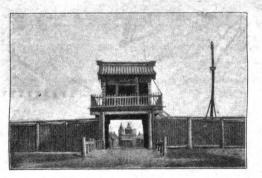
The public instruction is still at a very primitive stage, but its progress is evident and very remarkable when the present number of schools and



Bazar. Tea-store in Kiakhta (phot. by Mrs. Petróv).

pupils is compared with the data for the preceding years. The territory contains a total of 375 schools with 12,761 boys and girls. This includes 4 middle schools classical gymnasiums, two schools for girls and a modern school. There are 15 third-class schools and 356 lower institutions. Ten years ago, the territory possessed only 151 schools with 5,925 school children.

Among the scientific societies there are: the Chitá and Tróitsko-Sávsk-Kiákhta branch of the Imperial Russian Geographical Society of the Amúr division. The Transbaikal branch of the Imperial Society for the Preservation of Animals useful to the Hunter and Trader and the encouragement of legi-



Entrance gate of Maimachin.

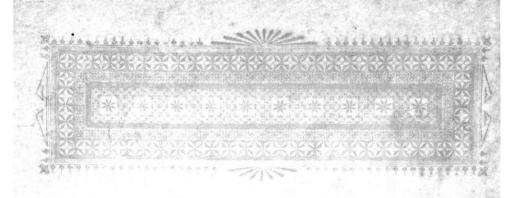
timate sport. The Transbaikál Doctors' Society in Chitá.

The railway constructed within the confines of the territory, constituting a link in the Great Siberian main line, will in the near future completely change all the economic and other conditions of this country, and by giving a wide scope to the development of productive industry and enlarging the sphere of export for local produce, will also raise the level of public education and intelligence.

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The Transbaikál Railway.

Direction of the line, — Cost of construction. — Description of the stations and localities traversed by the railway. — Mysováya. — Posólskaya. — Selengá. — Tataúrovo, — Town of Verkhneúdinsk. — Onokhói. — Zaigráevo. — Ilka — Mkhe-Gorkhón. — Kuzhí. — Petróvsk Works. — Tarbagatái. — Talbóga. — Báda. — Khilók. — Khushengá. — Taidún. — Magzón. — Sakhandó. — Yáblonovaya. — Ingodá. — Town of Chitá. — Kruchína. — Makavéevo. — Karymskaya. — Kaidalóvo. — Branch line to the East - Chinese railway. — Urulgá. — Zubarévo. — Onón. — Shílka. — Town of Nérchinsk. — Biánkina. — Bayán. — Srétensk.

he Transbaikál railway begins at the landing-place of Mysováya, on the eastern shore of Lake Baikál and, proceeding by way of Verkhneúdinsk and the Petróvsk Works across the Yáblonovy chain to the towns of Chitá and Nérchinsk, terminates at the station of Srétensk, where commences the steamboat communication by the rivers Shílka and Amúr. The total length of the line is 1033.5 versts. The cost of its construction amounts to R. 59,250,381, inclusive of rails and rolling-stock.

The preliminary surveys were conducted by Engineer Viázemsky.

The construction of the line was commenced on the 11 April 1895 under the direction of Engineer Púshechnikov. The Transbaikál railway numbers 34 stations.

1) Mysováya, IV class station, it is situated on Lake Baikál, near the landing-place of the same name. Near the station a church is being built in honour of the Martyr St. Platón, at the cost of the Emperor Alexander III fund. Upon the opening of traffic, a halting-place and a medical and feeding

station was established near the landing place of Mysováya for the use of the emigrants bound for the Transbaikál and Amúr regions.

The settlement of Mysovóe of the Selengínsk district, situated near the landing-place, previous to the construction of the railway, contained only 72 houses and a population of 298; at present it is much extended and the population has increased to such a degree that the local administration contemplates the creation of a town on the shore of the Baikál.

The locality surrounding the settlement and adjoining the railway is divided into regular sections, which are temporarily leased. The settlement of Mysovóe is the residence of a police officer and contains a post and telegraph office with a savings bank. Fifteen versts to the south of the village of Mysovóe, on the northern slope of Khamár Dabán, occur beds of magnetic fron ore. On the 22 June, 1891, His Imperial Majesty, the present Emperor Nicholas II, then Heir Apparent to the throne, arrived at the station of Mysováya on his way from the Far East. A spacious and elegant pavilion was erected by the merchants of Kiákhta for the reception of the Imperial visitor and his suite. Having been received here by General of Infantry Goremykin, Governor-General of Irkútsk, His Imperial Majesty took leave of Baron Korf, Governor-General of the Amúr territory, and of the persons belonging to the local administration who had accompanied him on his journey through the Amúr region.

From the station of Mysováya, the railway runs along the shore of Lake Baikál, skirting the branches of the Khamár Dabán mountain ridge, which at many places falls to the lake in an almost perpendicular line. The line crosses many mountain streams and brooks flowing from the Khamár Dabán The most important among them are the Mantúrikha and the Bolsháya spanned by stone bridges with iron girders. Throughout its course to the station of Posólskaya, the line runs through a desert, swampy and thinly settled forest region or taigá, unfit for cultivation.

2) Posólskaya, Is a V class station (45 v.) situated near the village of Posólskaya on Lake Baikál, iu the Selengínsk district (houses 141 pop. 751: 379 males, 378 females). In the vicinity is situated the second-class monastery of the Transfiguration of Our Lord, built in 1681 by command of the Tsar Theodore Alexéevich by the ecclesiastical mission sent to Western Daúria consisting of the abbot Theodosius and the monk Macarius. The monastery stands on the spot where Yeroféi Zabolótsky, the son of a nobleman of Tobólsk, was treacherously murdered by the Buriáts in 1650, together with his sen and his companions on his way to the land of Mungánsk as ambassador to the Khan sysan. At first a prayer-house was erected there to serve for missionary purposes the first orthodox preachers in the Transbaikál; later on, in 1771, a wooden church with a bell-tower was erected in honour of the Transfiguration of Our Lord, and cells for the brotherhood and their superior were built at the cost of the merchant Oskólkov, of Kiákhta. At the present time, the monastery possesses two stone churches: one of these is a cathedral, having two storeys, erected in place of the former wooden church; the upper church is consecrated to the Transfiguration of Our Lord, the lower in memory of the Miraculous Apparition of the Virgin Mary. The second church is built on the northern side of the monastery in honour of St. Nicholas the Miracle-worker. The monastery is surrounded by a stone wall; to the left, on the western side, there is a stone chapel over the grave of the ambassador Zabolótsky. The enclosure of the monastery contains two stone and 6 wooden detached buildings: one of them is inhabited by the vicar of Irkútsk, the others are occupied by the brotherhood, the missionary school, the dining hall and the poor-house.

The ground on which the monastery and the surrounding villages are situated is composed of alluvium brought down by the Selengá river.

Many thickly populated settlements are situated in the neighbourhood: in that of Chertóvkinskoe, an annual fair is held in the beginning of August, with a turn-over of a theusand rubls. The landing-place of Boyárskaya, on the Lake Baikál, lies near the station of Posólskaya. Here is the post station of the Verkhneúdinsk highway, the halting-place or étape for convicts and a convoy commando, whose duty it is to escort parties to the next étape.

At the 50 th verst, the railway line issues into the valley of the river Selengá, and follows its left bank up the river. The valley of the Selengá between the 50 and 125 verst is rather wide. The bordering mountains, which are branches of the Khamár Dabán, only at a few places come down to the river. Throughout this part, the Selengá widens and is dotted with many islands.

3) **Selengá.** IV class station (80 verst). The village of Ilínskoe is situated near the station, on the river Selengá, in the Selengínsk district (100 houses, pop. 476; 221 males, 255 females). It was built at the end of the XVII century and known under the name of the stockaded post till the beginning of the XIX century. The village contains the Selengínsk monastery of the Holy Trinity with an antisectarian mission. This monastery was founded in the XVI century for missionary purposes. It possesses a stone cathedral and, as memorials of the past, two wooden churches. One of these was built at the end of the XVII century, the other at the beginning of the XVIII. The holy images and the ikonostasis have still the same appearance as at the time of its construction. A stone church was erected in 1806 above the Holy Gate.

The monastery was visited in 1891 by His Imperial Majesty, the Emperor Nicholas II; special attention was paid to the antiquities of the monastery dating from the time of the Tsar Alexis Mikháilovich. In remembrance of his visit, His Imperial Majesty presented an enamelled altar-cross to the monastery.

4) **Tataúrovo.** IV class station (119 v.) situated near a village of the same name on the river Selengá (31 houses, pop. 156; 84 males, 72 females). From the 125 verst, the valley of the river Selengá narrows to a mere pass between the mountains, along the steep slopes of which the line runs as far as the 130 verst, where it passes to the right bank by an iron bridge with roadway upon the lower chord and six spans of 40 sazhens each, and two on each side of 8 sazhens supported by stone piers laid on caissons. Along the right bank of the Selengá, the line follows steep slopes as far as the town of Verkhneúdinsk. Ræddish and grey granite protrudes at some places on the banks.

5) Verkhneúdinsk. IV class station (154 v.) Lies close to the district town of Verkhneúdinsk (51° 49′ N. lat. and 77° 14′ E. long.) and is picturesquely situated in a deep vale between the spurs of the Yáblonovy chain, and at the junction of the rivers Uda and Selengá (pop. 8.002; 4964 males, 3038 females). The town is regularly planned and has wide streets; it contains 901 houses (about 40 of stone), 4 churches (3 of stone) among which may be mentioned on account of their ancient architecture the Odigídri cathedral,

founded in 1745, and the church of Our Saviour, dating from the year 1796. There are 5 chapels (3 of stone), a Jewish synagogue, 6 schools, a preparatory gymnasium with four classes for girls, a district school for boys, 3 urban parish schools, a church parish school, a town public library.

Here we find the office of the manager of the IV division of the Transbaikál line; the first battery of the Transbaikál Cossacks; the local body-guard; post and telegraph office with a savings-bank; the department of the Western Transbaikal Mining district and an agency of the Russo-Chinese Bank.

The military post of Udínsk, to which were banished the Streltsy in the year 1668, stood on the site of the present town. In 1775, Udínsk was transformed into a town.

Its favourable position on the navigable river Selengá and the vicinity of the fertile regions of the Transbaikál have made it the chief centre of trade in the western part of the country. Every year, in January, a fair is held in the town with a business of about R. 3,000,000. The following industrial concerns are situated near the town: a distillery, a brewery, a butter manufactory, four tallow-boileries and candle manufactories, 17 tanneries, 3 soap boileries. The butter manufactory was established by Fédchenko in 1894



View of the town of Verkhneudinsk.

with steam motors. Cedar-nut oil is produced by means of the nut-shelling apparatus of Griadásov. Within 45 versts of the town, is situated the steam flour-mill of the merchant Goldóbin, grinding about 125,000 puds of wheat annually.

There are two hotels under the management of Jews, with rooms from R. 1. 50 k. to R. 2 a day; the rate is higher during the fair. Hackney coaches according to tariff: a drive 20 k. the hour 40—50 k.

On the 22 June, 1891, His Imperial Majesty, the present Emperor Nicholas II on his way from the Far East arrived at Verkhneúdinsk and, on the 21 June, anniversary day of the confirmation of the statute for the organisation of the infantry battalions of the Transbaikál Cossack troops, assembled the "voiskovoi krug" or general meeting of the Cossack troops, and held a review of them.

The more important firms are: Vtórov—manufactured goods; Nemchínov—navigation; Sobenikóv and Molchánov brothers—tea and sugar; Fainberg—hard-ware; Buivid—wine-cellar, vegetable oil, etc. Kravétsky—brewery; Manzúrov—soap-boilery; Goldóbin—wheat flour-mill; Trunév—hard ware; Fédchenko—butter and grocery.

Agents: Stasivan—of the Rossía Company; Mashanov—of the St. Petersburg Insurance Society.

Skirting Verkhneúdinsk on the north, the line crosses the river Udá at the 162 verst by a bridge of 50 sazhens, with iron girders, roadway upon the lower chord, and stone piers on caisson foundations.

- 6) **Onokhói.** IV class station. (187 v.). Is situated next to the village of the same name on the river Udá (houses 97, pop. 486; 233 males, 253 females) and is inhabited by Mongols and Buriáts, placed under the council of the Khorínsk steppe, in the Verkhneúdinsk district. The village contains a post station. Hence the line, having previously followed the main post-road of Moscow, leaves it, and proceeds along the valley of the river Brián.
- 7) Zaigráevo. V class station (207 v.). A cement works established near the station on the river Brián, belongs to the merchant Tetiukóv and has a yearly output of 20,000 barrels. Passing by the station, the line crosses the river Brián at the 215 verst by an iron bridge of 20 sazhens and continuing along the valley of the Ará Kizhí, a tributary to the Brián, ascends to the Station of Ilka and further on to Mkhe-Gorkhón with specifications as usually applied on level sections.
- 8) **Hka.** IV class station (229 v.) received its name from the river Ilka, which is a right tributary of the Ará Kizhí.
- 9) **Mkhe-Gorkhón.** V class station (256 v.) From the station, the line ascends to the mountain range of Zagón Dá, forming the watershed of the tributaries to the rivers Udá and Khilók. The specifications generally used for mountainous sections are adopted on this ascent (grade .0175). The station of Kizhí is situated at the highest point of the mountain ridge, at an elevation of about 200 sazhens above the level of Lake Baikál.
- 10) Kizhí. V class station (270 v.). Hence the line descends to the valley of the Baliaga, falling into the Khilók, and reaches the Petróvsk Works, belonging to His Imperial Majesty's Cabinet The country traversed by the main line, between the town of Verkhneúdinsk and the Petróvsk Works, is settled only for a distance of 50 versts, and that by emigrants long since arrived from European Russia, mainly engaged in agriculture and cattle-breeding. Further on, in the direction of the Petróvsk Works, the country presents a thick taigá inhabited only by half-nomad Buriáts. Between Mysováya and the Petrovsk Works, the road considerably deviates from the straight line, connecting these two points. From Mysováya it runs north-east, then along the valley of the Selengá, south-east to the town of Verkhneúdinsk, further along the valley of the Udá, north-east again and finally, on leaving this valley, it takes a south-eastern direction towards the Petróvsk Works. All the attempts made to find a shorter cut across the mountain range of Khamár Dabán, for the location of the main line from Mysováya to the Petróvsk Works, proved unsuccessful and shewed the necessity of avoiding the mountains following the valleys of the rivers Selengá, Udá and Brián.
- 11) The **Petróvsk Works.** IV class station (288 v.) situated close to the Petróvsk Ironworks, belonging to the Cabinet of His Imperial Majesty, on the river Baliága, tributary of the Khilók, in the Verkhneúdinsk district (houses 681, pop. 3,673; 1,864 males, 1,809 females).

This works was established in 1790, principally with the view to supply iron to the Nérchinsk mines and the gold mines belonging to the Govern-

ment. A considerable quantity of iron and cast-iron are sold in the country. An area of 104,637 desiatins, including 94,550 desiatins of forest land, pertains to the works. At the present time, only the Baliága mine is being worked; it lies on the Zagán Dabán ridge 25 versts from the works, on the river Baliága, and supplies them with magnetic iron-ore. The works contain: 1 blast furnace, 2 puddling furnaces, 1 reverbatory furnace, 3 welding and other furnaces, 1 cupola furnace, 1 blasting engine, 11 pig-iron furnaces, 7 forges, 1 steam hammer, 17 hydraulic hammers, 14 water-wheels of 204 H. P.; 3 steam engines of 130 H. P. and give employment to 250 men.

The average quantity of iron produced is 50,000 puds; the quantity of puddled and pig-iron amounts to 20,000—30,000 puds.

The settlements round the works compose a separate Petróvsk vólost containing a church to St. Peter and St. Paul erected in 1837, a school and a hospital. Here are the offices of the V division for the construction of the Transbaikál railway line and of the local department for the ironworks.

The Petróvsk Works was a place of exile for many of thode who were condemned for participation in the conspiracy of the 14 December 1825, known under the name of the Dekabrists. They were confined in a prison specially constructed in a locality chosen by Lepársky, the director of the prison, and were brought over from the prison of Chitá in the year 1830. This prison, standing apart from that of the convicts condemned to hard labour in the mines for non-political offences, was a low and dark building with an inner court. By Imperial permission, the wives of the Dekabrists were allowed to follow their husbands from Chitá to the Petróvsk Works; they were the Princesses Trubetskój and Volkónsky, and Mesdames Annenkov, Muravióv, Naryshkin and Davydov. Later on, the Dekabrists were transported from here to different parts of Siberia, and also as soldiers to the Caucasus. About the year 1840, the political prison of Petrovsk became vacant. Only Gorbachévsky, who died 1870, lived to the end of his days in the Petróvsk Works, first as an exile-settler, then as a nobleman, and died there in the office of arbitrator on the lands of His Imperial Majesty's Cabinet.

Leaving the Petróvsk Works, the line follows the valley of the Baliaga, crossing it twice at the 293 and 299 verst, over iron bridges of 15 and 20 sazhens, and then turns north-east into the valley of the Khilók, ascending along the right bank of this river to the summit of the Yablonovy mountain range.

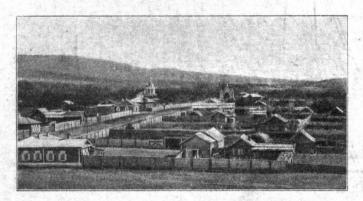
12) **Tarbagatái**, V class station (319 v.), is situated near the village of the same name on the Khilók, and belongs to the Verkhneúdinsk district, (houses 51, pop. 258; 138 males, 120 females).

The village of Tarbagatái has a wooden missionary church to the Holy Trinity erected in 1872, and a school.

At the 324 verst, the line crosses the river Tígni by an iron bridge of 15 sazhens and, continuing its course through the valley of the Khilók along the right bank of this river, ascends the Yáblonovy ridge. On the right side of the Khilók, below the mouth of the Tígni, occurs an outcrop of brown coal, embedded in soft clayey sandstone and clay slates. This bed was explored in 1889 by the administration of the Petróvsk Works, but its productive capacity was imperfectly ascertained. This coal, tested in 1892 in the gold-smelting laboratory of Irkútsk, was pronounced to be chinky, efflorescent and with uncaked coke.

- 13) **Talbóga**, IV class station (337 v.). Office of the VI division for the construction of the Transbaikál railway. The valley of the Khilók traversed by the main line is quite destitute of permanent population, being only visited by wandering Buriáts with their herds. This valley for a considerable distance is bordered by mountains; at some places, their spurs approach the river and fall to the water in a steep and almost perpendicular line. At such points, the location of the line was attended with great difficulties.
- 14) **Báda**, IV class station (381 v.) is situated amidst the wide spreading Báda steppe, near a village of the same name, inhabited by Buriáts belonging to the Khórinsk department of the Verkhneúdinsk district (houses 253, pop. 1,230; 600 males, 630 females.) From this station, the line runs east, gradually ascending, along the right bank of the Khilók.
- 15) Khilók, IV class station (427 v.). A church was erected near the station in honour of St. Nicholas the Miracle-worker and the Martyr Saint Queen Alexándra in commemoration of their Imperial Majesties' coronation, at the cost of the wife of Major General E. I. Kúkel. The first stone for the construction of this church, which was the first on the Transbaikál line, was laid on the 1 August 1897, in the presence of State Secretary Kúlomzin. Following the right bank of the Khilók, the line turns north-east, having on the other side the Khogói and Shentói mountains forming branches of the Tsagán Khuntéi ridge.
 - 16) Khushengá, V class station (462 v.).
 - 17) Taidún, V class station (502 v.).
- 18) Ragzón, IV class station (541 v.). Office of the VII section for the construction of the Transbaikál railway. Next to the station, a church consecrated to the Apostles Peter and Paul is being built from the Emperor Alexander III fund. Close by are several mineral springs containing iron, different kinds of salts and natural carbonic acid.
- 19) Sakhandó, V class station (580 v.) The line leaves the Khilók valley between the stations of Sakhandó and Yáblonovaya and at the 590 verst passes over a depression in the Yáblonovy ridge, with an elevation of 250 sazhens above the level of Lake Baikál, and with 487 sazhens absolute height at the head-waters of the river Kúka, a tributary to the Khilók and Kúka, falling into the Ingodá. The descent along the eastern slope of the mountains, from the summit to the station of Yáblonovaya, is so steep that the specifications used in mountain districts were here adopted for a distance of 12 versts (grade .017, radius 150 sazhens).
- 20) Yáblonovaya, IV class station (603 v.). From this station, the line descends along the valley of the river Kúka, tributary to the Ingodá, and further winds its course along the narrow and sinuous valley of the Ingodá, belonging to the Amúr basin, taking a general north-eastern direction till the station of Chitá.
- 21) Ingodá, V class station (638 v). At the bottom of the left bank of the Ingodá, named Krutói Yar, situated 2 versts beyond the village of Nóvaya Kúka, were found two seams of brown coal. Engineer Obruchev considers that these beds are worth working on account of their proximity to the railway station (3—4 versts) and their favourable position on the banks of the raftable river, at a height of 7—8 sazhens above the level of the water.
- 22) Chitá, III class station (674 v.) is situated at a distance of 2 versts from the town of Chitá, separated from it by the river of the same name.

A church in honour of St. John is being erected near thé station at the cost of E. I. Kûkel and the Emperor Alexander III fund. Chitá is the chief town of the Transbaikál territory. It is the residence of a military governor, and the centre of the local administration (51° 1′ N. lat. and 83° 10′ E. long.). The town is situated on the left bank of the river Chitá, near its junction with the Ingodá. The small river Kaidalóvka, a tributary of the Chitá, flows through the town. The Chitá is not navigable; rafts are floated on the Ingodá. In the middle of the XVIII century, a Cossack stockaded post stood on the site of the present town. This unknown place, which formerly was a poor village consisting of 26 peasants huts with 300 inhabitants, became in 1827 from administrative considerations the place of banishment for those who were condemned for participation in the conspiracy of the 14 December, 1825. Buildings, narrow, low and dark, surrounded by a high wall of pointed stakes, were allotted for the accomodation of the exiles, and received then the name



View of the town of Chitá.

of the Casemates, each being marked with its N°. The unsatisfactory conditions of the building required the construction of a new prison, which was begun in the spring of the year 1827. All the prisoners of the casemates were obliged to take part in the work, and thus the new building was ready by the autumn of the same year. Most of those condemned for the conspiracy of the 14 December lived three years and seven months in this prison built by their own hands.

During this period, the poor village of Chitá, which formerly, on account of its situation on the low bank at the junction of the rivers Chitá and Ingodá, was used as a suitable spot for the construction of rafts floated along the rivers Ingodá and Shílka, became a considerable settlement. It owed its outwardly prosperous appearance to the Dekabrists, who drained the place, filled up ditches etc., while the actual prosperity of the inhabitants was due to the money expended by the prisoners in the satisfaction of their daily requirements. One of the streets of the town up to this day is called the Dámskaya or Ladies street in memory of the ladies Trubetskói, Volkónsky, Muravióv, Annenkov, Naryshkin and Davydov, wives of the Dekabrists, who accompanied their banished husbands and had their own houses in it. Having developed into a commercial centre under the influence of the exiles, Chitá very soon acquired the foremost position in the country. On the organisation

of the Transbaikál territory in 1851, it became the centre of the local administration. From that time, the newly founded town has developed rapidly.

The last census shewed a population of 11,480 (6,877 males, 4,603 females). The town is very well laid out, but the streets are unpaved and very badly lighted. On the 1 July, 1899, the town was supplied with a telephone at Government cost for the use of the public. The total number of the mostly wooden houses is 1,412. There are 9 churches and a nunnery of the Holy Virgin; a vast stone cathedral, founded on the 12 August, 1899, in commemoration of His Imperial Majesty's visit to Chitá in 1891, and of the Sacred Coronation in Moscow in 1896; a Roman catholic chapel and a Jewish synagogue. There are 13 schools: gymnasium for boys and girls, diocesan school for girls, central missionary school attached to the Archbishop's house, artisans' school, urban three-class school, and two parish schools; one of them was founded in memory of His Imperial Majesty, the Emperor Nicholas II's visit to Chitá on the 17-18 June in 1891; the other was established in commemoration of the marriage of Their Imperial Majesties, the Emperor Nicholas II and the Empress Alexándra Feódorovna; a Sunday-school and three parish schools attached to the convict children's home, to the central missionary school, and to the nunnery; a military school for surgeons' assistants and a school for midwives. The children's home is under the management of the Transbaikal Relief Society.

Charitable and scientific societies:

The Chitá Brotherhood of the Ápostolic Saints Cyril and Methodius and St. Innocent the Miracle-worker of Irkútsk. The Transbaikál branch of the Relief Society for the families of exile convicts, under the patronage of Her Majesty the Empress Mary Feódorovna. The Transbaikál Committee for the assistance of emigrants. The Chitá branch of the Imperial Russian Geographical Society of the Amúr region, with museum and library. The Doctors' Society in Chitá. The Transbaikál branch of the Imperial Society for the Preservation of Animals and for Legitimate Sport. Local committee of the Red Cross Society. An amateur society for singing, music, literature and dramatic art. A pupils' aid society.

There is an official daily paper "The Transbaikál district Gazette" published in Chitá. In 1897, a newspaper entitled: "Life in the Eastern Borderland" was published in Siberia without censorship, in Russian and Mongo-

lian, edited and published by Mr. Badmáev.

The town contains the following military institutions: headquarters of the Transbaikál territory; department of the Transbaikál military commander; local commissariat administration, artillery stores; artillery park; military medical department; military economic department of the Transbaikál Cossack troops; the reserve battalion of Chitá; 1 Transbaikál Cossack regiment of Chitá; 1 Transbaikál Cossack regiment of Nérchinsk; 2 Transbaikál battery; local brigade.

Medical establishments: military hospital of Chitá; military hospital for the Transbaikál Cossacks; branch lunatic asylum; and town hospital. A station for experimental medicine, for the study of the plague and inoculation of anti-plague serum was established in 1899.

The hotels are: "Tokio" and Bianchinsky with rooms at R. 2 a day. The rooms are very bad.

Chitá has a general club and that of the Clerks' Mutual Aid Society. The town of Chitá, being the commercial centre of the greater portion of the

Transbaikál, is rapidly developing its trade and industry; the annual income of the town amounts to R. 100,000 and the transactions to R. 3,000,000. There are a branch of the State Bank and an agency of the Russo-Chinese Bank. The town line includes Kolesh's fur manufactory and tannery, with a turnover of R. 150,000, soap boileries and candle manufactories.

The first agricultural and industrial exhibition in Chitá took place in 1899, from the 15 August to the 10 September. Its chief objects were to give a complete idea of the agricultural condition of the Transbaikál and to acquaint the population with better methods of agriculture. The exhibition committee organised a sale of agricultural machinery which was tested in an experimental field. The exhibition contained an orchard, a nursery garden, an apiary etc. During the exhibition, teachers and gold-miners held meetings and conferences with a view to establish agricultural schools in this country. The most important firms are: Kolesh—drapery and haberdashery; a wholesale in tea; tannery, soap boilery etc.; office for the transport of goods. Schlesinger—manufactured and drapery goods, Ignátiev—manufactured articles, iron goods, wine-cellar. Kóstin—grocery goods, wine-cellar for Russian and foreign wines. Bútin—hardware. Badmáev and Co.—manufactured goods and wine-cellar. Goldóbin—wheat flour-mill, glass wares. Vtórov—manufactured articles. Stakhéev—manufactured articles. Pereválov—china and earthenware.

Near the town and the station, there is a medical and feeding station for the emigrants, which is the residence of an official entrusted with the regulation of the emigration movement. Leaving the station, the line crosses the river Chitá by an iron bridge having a total length of 75 sazhens with three spans of 25 sazhens each, and track on the bottom. It will be adapted for wheel traffic, in order to facilitate the communication between the station and the town. Further on, the line runs along the left bank of the Ingodá, and at 692 verst crosses the Nikítikha tributary of the Ingodá, by an iron bridge of 20 sazhens and, at the 708 verst, the Kruchína, also a tributary of the Ingodá, by an iron bridge of 25 sazhens.

23) **Kruchína.** IV class station (708 v.). Situated near the Cossack settlement of Kruchína, in the Chitá district, on the Ingodá and the great postroad to Moscow (houses 22, pop. 128,61 males, 67 females). The whole settlement was detroyed by an inundation in 1897.

24) Makavéevo. IV class station (729 v.) situated near the Cossack village of the same name in the Chitá district, on the Ingodá and the great Moscow post-road (houses 115, pop. 655; 305 males, 350 females). The stanítsa or village has a wooden church consecrated to the Saints Peter and Paul, a village board, a school and a post office with a savings-bank. The mineral (calcareous) springs of Makavéevo lie within 12 versts of the village. Near the station there are iron-ores, which remain yet unexploited.

From Makavéevo to Karymskaya, the line following the left bank of the Ingodá runs to the south-east, and further on turns north-east.

25) Karymskaya. V class station (767 v.) near the village of Karymskoe belonging to the native Buriat board of Urulchánsk, is situated on the river Ingodá and on the great Moscow post-road (houses 21, pop. 106; 51 males, 55 females). Deposits of iron have been found at the junction of the Ingodá with the Budungúi.

26) **Kaidalóvo.** (783 v.). Is situated near the Cossack village of the same name in the Chitá district, on the Ingodá and the great Moscow postroad (houses 149, pop. 849; 432 males, 418 females). The village possesses a

stone church of the Holy Trinity, and a wooden one at the cemetery. Local board, military medical station, post and telegraph office with savings-bank.

Within 4 versts of Kaidalóvo, a branch line which is still in construction leaves the Transbaikál line and runs to the frontier of China towards the Manchurian town of Khailar and joins the East-Chinese railway. At its very commencement, the branch line crosses the Ingodá by an iron bridge having a length of 80 sazhens with two spans of 40 sazhens each, and traverses a mountain ridge forming the watershed of the rivers Ingodá and Agá, which on the left falls into the Onon. At the 26 verst, the line passes over the summit at a low point of the ridge at the headwaters of the river Míra, belonging to the basin of the Ingodá and Míra, tributary of the Mogoitúi of the Onón basin. At the 75 verst, the line crosses the river Aga by an iron bridge of 30 sazhens and further on, at the 85 verst, the river Khilá by an iron bridge 15 sazhens long; at the 127 verst close to a tin mine, the line passes across the Onón spanned by an iron bridge of 180 sazhens consisting of two spans of 50 sazhens and two of 40 sazhens each and proceeds along the river Turgá, joining the Onón from the east. Further on, the branch line crosses the Turgá at the 161 verst by an iron bridge 25 sazhens long, and following the Tsungurúk depression passes over the Adún Chelón mountain ridge. Leaving the latter, the line at the 217 verst near the military post of Chindán crosses the river Borziá by an iron bridge of 50 sazhens and reaches the stations of Sibír and Nagadán at the frontier of the Chinese Empire.

The country traversed by the branch line has the character of a steppe, with the exception of the passages over the watershed of the Ingodá and Agá and though the Nérchinsk mountains. The population of this locality partly consists of wandering Buriáts, and partly of Cossacks mainly engaged in cattle-breeding.

The length of the line within the boundary of the Transbaikál territory to the frontier of Manchuria from the station of Kaidalóvo to Sibír is estimated at 324½ versts. The specifications for the projected line are those used on level sections, excepting a distance of 29 versts of mountain section with grades of .015. The estimated cost of this branch line is R. 28,323,158, inclusive of rails and rolling-stock.

27) **Urulgá,** IV class station (807 v.) is situated near the small village of Urulgínsk in the Chitá district (houses 44, pop. 239; 126 males, 113 females). The village contains a wooden church in honour of Our Lady of Kazán, a school and the office of the X division for the construction of the Transbaikál line.

In the neighbourhood, there is a spring of mineral (chalybeate) water and a stone quarry. Near the station, at the 807 verst, the line crosses the river Urulgá, tributary of the Ingodá, by a bridge with iron girders supported on stone piers; its total length is 60 sazhens, and it consists of spans of 20 sazhens each.

Further on, to the station of Zubarévo, the line follows a north-eastern direction guided by the course of the Ingodá. At the 821 verst, it traveress the river Tológa by an iron bridge with an opening of 40 sazhens and two spans of 20 sazhens each.

28) **Zubarévo.** IV class station (804 v.). Close to the station on the river Ingodá and on the great Moscow highway, is situated the small Cossack village of Zubarévo, in the district of Chitá (houses 20, pop. 138; 63 males,

75 females). Hence the Ingoda and the railway line turn east and retain this direction to the station of Onón.

- 29) **Onón.** IV class station (883 v.) is situated at the junction of the rivers Onón and Ingodá, forming the Shílka. Here the line turns again to the north-east, and running in this direction, follows to the end the banks of the Shílka.
- 30) Shílka. IV class station (907 v.). Proceeding along the bank of the Shílka, the line passes at the 908 verst over the river Kíya by a bridge having iron girders supported on stone piers and an opening of 25 sazhens. Before reaching the station of Nérchinsk, the line crosses the river Nércha at the 921 verst by an iron bridge of 150 sazhens with 5 spans of 30 sazhens each.
- 31) **Nérchinsk.** IV class station (950 v.), is situated near the town of Nérchinsk, which is a district town of the Transbaikál territory (51°58' N. lat., 86°14' E. long.). The town was founded in 1654, on the river Nércha, 5 versts from its junction with the Shílka (pop. 6,713; 3,886 males, 2,827 females). It is chiefly built of wood, having only a few stone buildings and churches; it contains 727 houses. There are 3 stone churches, one of them the cathedral of the Resurrection erected in 1825, and a Jewish synagogue. The number of schools is 8: ecclesiastical and district school, preparatory gymnasium for girls, 4 parish schools ond a church parish school. Town museum.

Department of the third division of the Transbaikál Cossack troops; the Transbaikál artillery division, containing two batteries; convoy command. town bank. Administration of the East-Transbaikál mining district, and office for the construction of the XI division of the Transbaikál railway. The annual revenue of the town amounts to R. 50,000. Nérchinsk carries on trade with the population of the district, and having a limited working capital cannot be considered as an important commercial centre. The fair, although officially established, does not exist in reality. The town contains the Hotel Dauria with rooms from 50 k. to R. 2 a day. Hackney coach tariff: a drive 20 k., per hour 40 k. Within the town line are only two tanneries and two candle and soap manufactories. On the 14 June, 1891, Nérchinsk was honoured by the visit of the present Emperor Nicholas II; His Majesty entered the town through a triumphal arch specially erected for this occasion.

The important firms are: Bútin, distillery and manufactured goods. Nizhegoródtsev, haberdashery. Riff, manufactured articles. Búivid, wine of home manufacture. Golumb, tannery. From Nérchinsk, the line follows the left bank of the Shílka along steep and rocky slopes intersected by deep ravines.

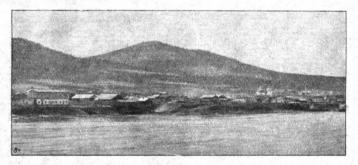
- 32) **Biánkina.** IV class station (974 v.). The small Cossack village of Biánkina is close to the station, belongs to the Nérchinsk district and is situated on the Shílka (houses 66, pop. 352; 183 males, 169 females), Between the stations of Biánkina and Bayán, the line proceeding along the rocky slope of the Shílka, at the 884 verst, crosses the river Kuengá by an iron bridge with an opening of 70 sazhens having two spans of 35 sazhens each.
- 33) **Bayán.** IV class station (1002 v.). Near by is situated the Kokertói Portland cement manufactory of the Amúr Cement Company established in 1895, on the left bank of the Shílka, four versts from the small village of Kokertói, in the Nérchinsk district. The machinery and tools are made in Germany at the works of Nagel and Kampe in Hamburg. The production of cement is effected by the so-called dry system, the cement being burnt in Dietsch's patent furnaces heated with charcoal. The annual output is 40,000

barrels, containing each 10 puds of pure cement. The materials employed are limestone found within 12 versts of the manufactory, clay within 25 versts, and gypsum conveyed from the environs of Irkútsk. This is the first manufactory in the Amúr region, its establishment being entirely due to the gracious attention and approval evinced for this enterprise by the Imperial President of the Siberian Railroad Committee at the sitting of the 12 April, 1895.

On its course between the stations Bayán and Srétensk, the line crosses the river Manatán by an iron buidge with an opening of 15 sazhens.

34) **Srétensk.** IV class station (1,035 v.). The Cossack settlement of Srétensk (1,450 feet above sea level) is situated near the station at the junction of the Kurengá with the Shílka.

According to the census of 1897, this village consisting of 349 houses contained 1,710 inhabitants (889 males, 821 females). The last statistical record shewed that the village grew considerably under the influence of the Great Siberian mainline; the number of houses is now doubled and the population increased to 8,000. Previously this village was a convict prison, which in 1783 was transformed into a district town of the Irkútsk vicegerency. In 1789, the town of Srétensk was superseded. At the present time,



View of Srétensk.

the Cossack village of Srétensk is included in the Nérchinsk district. It is the residence of a police officer, judge, lawyer, tax inspector and contains a village board. Military hospital. Military medical station. Headquarters of the Srétensk reserve battalion. Convoy command. Supply stores and commissariat depot. Crown saltern. Post and telegraph office with savings bank. Manager's assistant's office for the 1 section of the Amúr Steamship and Trade Company.

There are two churches: of the Purification erected in 1739, and of St. George built in 1890. A school with two classes with a division for artisans and a parish school. A branch of the Siberian Trade bank opened its operations in April 1899.

Near the landing-place of the Amúr Steamship and Trade Company is an hotel kept by Mikúlich.

For the assistance of the emigrants, a medical and feeding station was established in proximity to the Cossack village; it is also the residence of an official entrusted with the regulation of the emigration movement.

Representing now an important and populous centre of trade and industry, the population of Srétensk contains only 15 per cent of Cossacks, the remaining 85 per cent consist of different classes (40 per cent) and peasants

(45 per cent). The village is particularly enlivened during the season of navigation, when the total population increases to 10,000, by an addition of foreign workmen. Here are found representatives of almost all the firms of Kiákhta and Chitá. Tea traders: Kokóvin, Básov, Lúshnikov, Sobénnikov and Molchánov, the successors of Gúbkin have their own stores. Among the local firms the most important are: Lukín, Shustóv and Andovérov. The trading firm of Kunst and Albers, which is well known throughout the Amúr region, has a branch in Srétensk. Within recent time, representatives of the Irkútsk firms are also met with here. In consequence of the great number of trading offices and of the quantity of strangers of the trading class, a clerks, mutual aid soctety has been established here.

Srétensk presents now the most lively centre of the Transbaikál, not excepting even Chitá. The commercial transactions accomplished in 1897 amounted to R. 6,769,600. The Cossack administration somewhat hinders the commercial progress of Srétensk, and stands in the way of a regular organisation, considering itself as the owner of the estates and lands adjoining the settled centre. The establishment of a public municipal administration will be the only means to secure the development of Srétensk.

Manufactories and works are represented in Srétensk by the steam flourmill of Lukín, opened in 1895; the central body is of wood and has three storeys. The steam engine is of 120 H. P. It is lighted by electricity. The mill is provided with a drying apparatus on the Sivers system. About 400 puds of grain are ground every day. Fur manufactory of Serédkin. Sheep-skins are bought in the Transbaikál; the manufactory turns ont 12,000 sheepskins. Tanning materials are brought from Hamburg; flour and salt are obtained in the same locality. The soap-boilery of Weinerman, with an annual produce amounting to 5,000 puds; soap is sold at an average rate of R. 4 60 k. per pud in the Transbaikál and in the Amúr region.

On the 13 June, 1891, Srétensk was honoured by the visit of His Imperial Majesty, the present Emperor Nicholas II, then Heir Apparent to the throne, coming from the Far East on the steamer "Véstnik". The village was handsomely decorated for this occasion. All the Cossacks and their children from the neighbouring villages assembled there to meet their Imperial Commander or Atamán. At 7 o'clock in the evening of the same day, after having held a review of the assembled troops, the Imperial Guest recumed his journey on the same steamer, ascending the Shílka to Nérchinsk.

At a distance of 25 versts from Srétensk, the steamer stopped at the right bank of the river, and His Imperial Majesty proceeded to a neighbouring mountain, where he took part in the lighting of a bonfire. A beautiful view offered itself from the summit of the mountain with the Shflka winding its course below and gradually disappearing amidst the surrounding hills. His Imperial Majesty and his suite stayed long in contemplation of the beautifu, scenery and only at 12 o'clock in the night returned to the steamer.

Throughout the distance from Chitá to Srétensk (360 v.), the line runs along the steep and mostly rocky side of the river valleys of the Ingodá and Shílka. These valleys further on narrow to passes bounded by lofty and steep elevations. At this place, the construction of the line required a great amount of blasting work.

From Srétensk, the Shílka-Amúr waterway runs east, connecting the Transbaikál railway with the Ussúri line terminating at Vladivostók.