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FROM TIBET TO ALTAI. THE WESTERN CHINA ON THE RUSSIAN HISTORICAL MAPS: PLACE NAMES RECORDED BY MILITARY AGENTS AND TRAVELERS.

Introduction

Our report is to present a project started in January 2003 in collaboration with the Harvard Yenching Institute under the invaluable support of the GHGIS community, which made it possible. Our goal is to extract placename features from the Russian historical maps of China in order to incorporate them into the CHGIS.

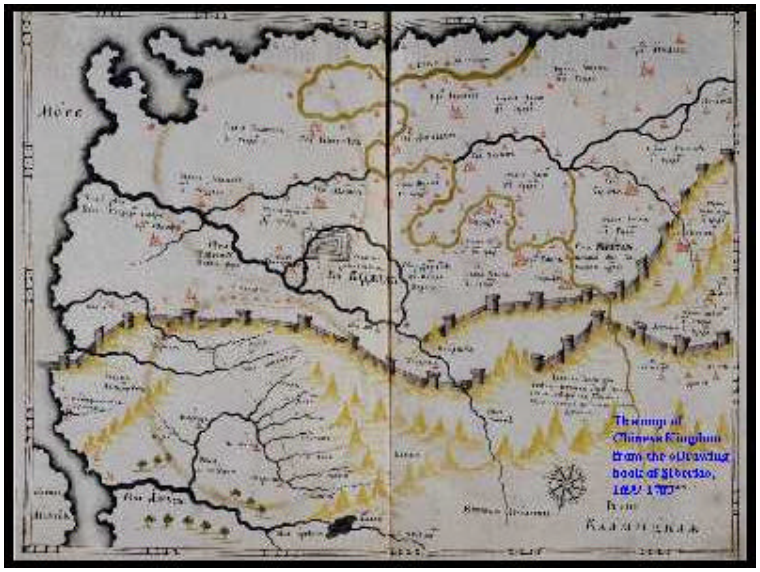
The subordinate tasks are:

1. Development of the catalogue of old maps in Russian archives, that cover any part of the modern territory of China;
2. Extract placename features from the most correct maps into the Georeferenced datasets;
3. Build database of placenames and attributes in the form of digital gazetteer.

In order to interpret historical data correctly it is necessary to know it's origin and methods of it's creation. The history of the Russian mapping of China contains numerous particular «histories». For more then three hundred years Russian travelers, merchants, diplomats, military agents and geographers created geographical descriptions and maps of the various regions of China. All their data was highly required by the government. As the Russian settlements moved far to the East from Ural in XVI – XVII centuries, government striven to extend the sphere of its influence to the Asia, promote Russian trade and oppose similar efforts from other European states. Several regions were subjects of the military interest, several – as potential trade and transport corridors. The pure academic interest to the nature, inhabitants, economy and natural resources was also great.

XVI-XVIII

In Medieval time all maps of China came to Russia from Europe.



Pic. 1. The map of Chinese Kingdom from the «Drawing book of **Siberia», 1699-1703**

First original and reliable data on China was received during the colonization of Siberia in XVI-XVII. It is considered that they came from Cossacks, sent by Ioann IV in 1567 «in order to find out new countries» (Popov, I.I., 1862).

Only in the middle of the XVII century 9 diplomatic missions to the Jungarian khanate in Western Mongolia. were sent. The mission of Baikov started from Tobolsk to Pekin in 1654-1658 (Postnikov, 2001).

Government sent expeditions to the Inner China to check rumors about gold sands, find short route

to India, collect strategic military information about Northern and Western China. Military reconnaissance data became of great interest especially after the Qinq Empire conquered the Eastern Turkestan and Jungaria in the mid-XVIII century.

At this time historical sources do not contain exact and detailed information about places and geographical objects, but mainly unverified geographical narratives.

One of the most interesting sources of the end of XVII is the geographical atlas of Siberia known as “Book of charts for Siberia (1699-1703)” by S.U. Remezov, studied in details by L.A. Goldenberg (1965, 1990). It is based on the medieval Siberian land cadastre, Early maps and charts. This detailed and accurate data describing geography and demography of Siberia was not available for the European cartographers.

The book includes several charts of Central Asia and China (as far as Tibet). The most interesting is the combination of the Russian data on Siberia unknown for the West and data on China borrowed from the Western sources. It shows the zone where Russian and Chinese cultures met.

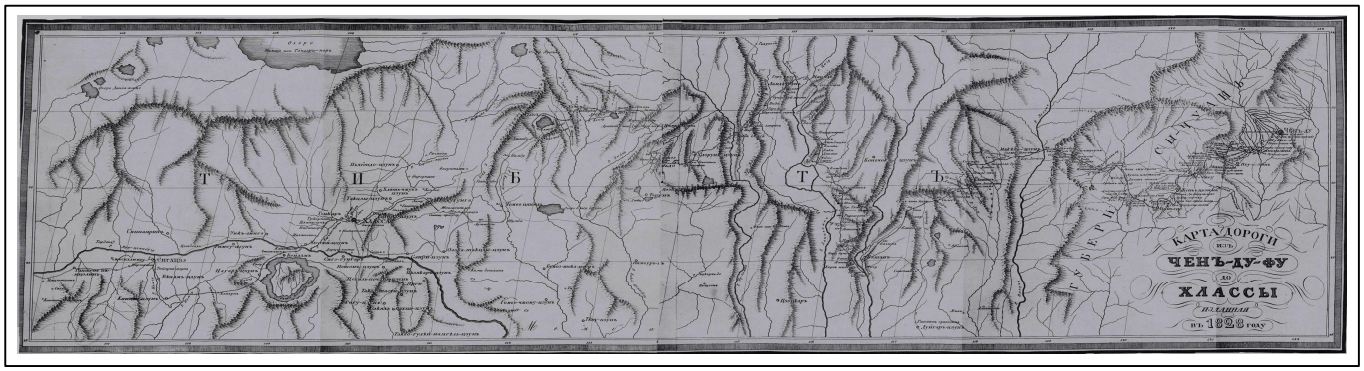
This atlas was considered so much valuable for border demarcation, that even in 1980th during the Soviet-Chinese boundary disputes the Soviet Foreign Ministry restricted access to it, and till now it still remains unpublished for this reason.

XIX – beginning of XX century

XIX century opens the period of the active mapping of China. Russian political and economic ambitions brought many Russian geographers and practitioners to the East.

The following types of the geographical practice had been common to them.

Expeditions of the people of trade and pilgrims, producing itineraries. They covered the Outer and Inner Mongolia, Xinjian, the ancient caravan route toward Pekin, trade backbone to Sychan, famous for its tea markets. Routes of pilgrims followed from Zabaikalie and Astrakhan steppes toward Lhasa.
Despite for their private character the government granted support and thoroughly collected geographic and intelligence data. Tzar Alexander II awarded the golden medal to the merchant Rafailov for his notes and charts of the route to Tibet.

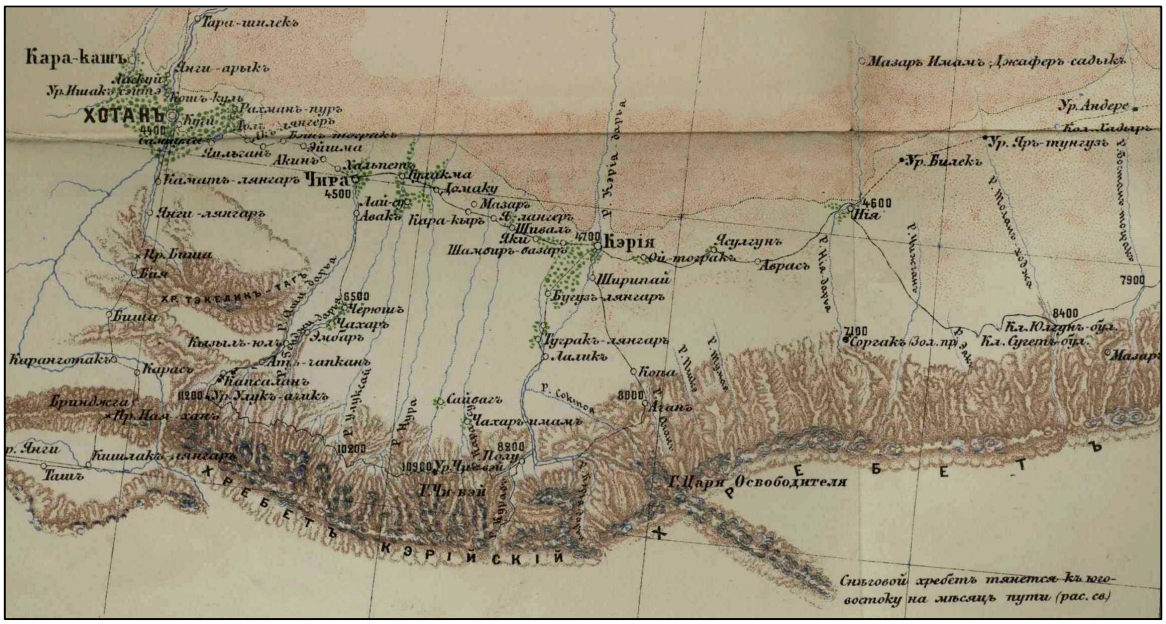


Pic. 2. Map of the road from Cheng-Du-Fu to Lhasa, 1828, translated from Chinese by I. Bichurin.

Descriptions included information about placenames, distances, landscape, weather, goods. The main attention was paid to the markets and natural obstacles – passes and river crosses. Despite inaccuracy of placename transcription and lack of map drawings these materials were precious indeed. First because they mentioned the very smallest places

along the routes. Second, for the fact that no other European attended some of these places before.[1]

The famous Russian military geographer and traveler Pevtsov wrote: “If only they knew topographic surveying, their itineraries would make an invaluable contribution to the



cartography of the remote Asia regions”.

By the end of XIX century it was done and the special trade expedition to China by Sosnovskii brought back large scale maps of the whole route.

Lack of maps had been compensated by the translation of Chinese maps. Lots of them were provided by the Russian Orthodox mission in Pekin. An example could be the map of the Route from Chen-du-fu to Lhasa composed in 1828 and translated by the known Russian orientalist priest Iakinf Bichurin. Catalogue of the General Staff Asian department contained more then 400 sources in Chinese, Mongol, Manchurian and Tibetan language, some of which were maps.

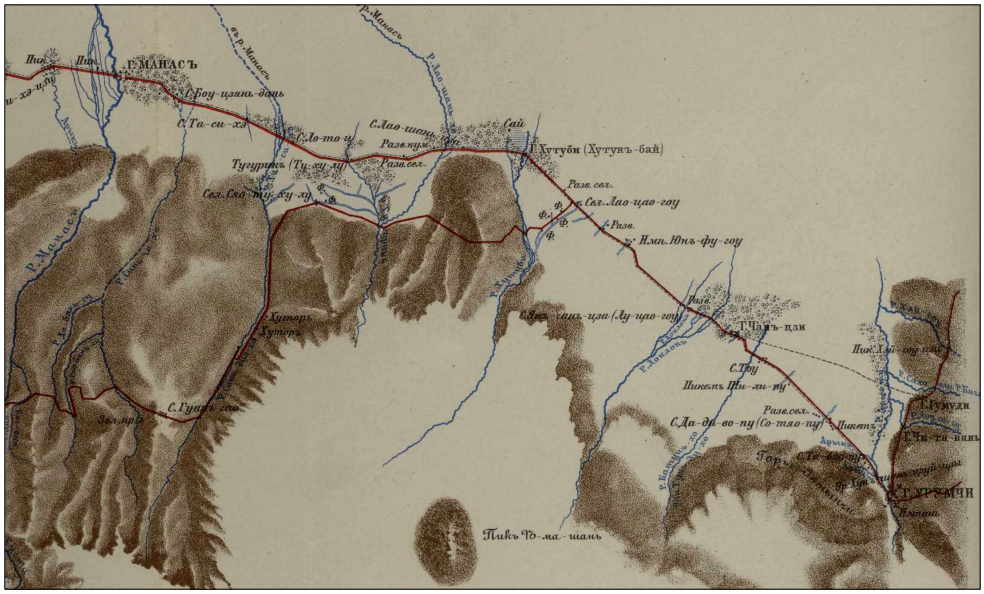
Since 1845 the Imperial Russian Geographical Society made the greatest contribution to the geographical research of the Central Asia, China and Mongolia. It coordinated its activities with the General Staff of the Russian Army. The Russian Geographical Society was responsible for setting the scientific programs, oriented on the physical geography, geomorphology, vegetation and fauna study. The General Staff provided the expeditions with the qualified topographers, funding and instruments. In return the General Staff received maps, intelligence data on border security, fortresses, strategic roads and important information on the political situation in the Muslim regions of China.

[1] Example: «… July, 28. Shang-shui-zi. 40 li (20 verst)
Kang-cuo-diang. Small fortress. 25 soldiers and 1 officer checking and protecting trade caravans from robbery. Small store.
July, 30. An-ding-xian. 110 li.
The gap Jin-jia-ling, 6000 feet. Fields around the city. Wheet, millet, oats. Many ruins left since the last muslim massacre….
… August, 3. Chin-zhang. Water only for animals and irrigation. For drinking people use rain water. Fuel - dung, straw and high grass
August, 4. Uezd center Jing-ning-zhou. Inhabitants - muslims. Fair, various goods including foreign…»

The most known and prominent among Russian travelers had been colonel Przhevalsky, who made four expeditions to China and Central Asia, each lasting for several years. He studied Southern

Mongolia and Alashan, Nan-shan to the North of Kuku-Nor, Tsaidam, Central Kun-lun, neighborhood of the lake Lob-nor, the source of Yantzy. In Russian he is considered to be the first European who mapped the source of the river Huanhe after the Jesuit survey.

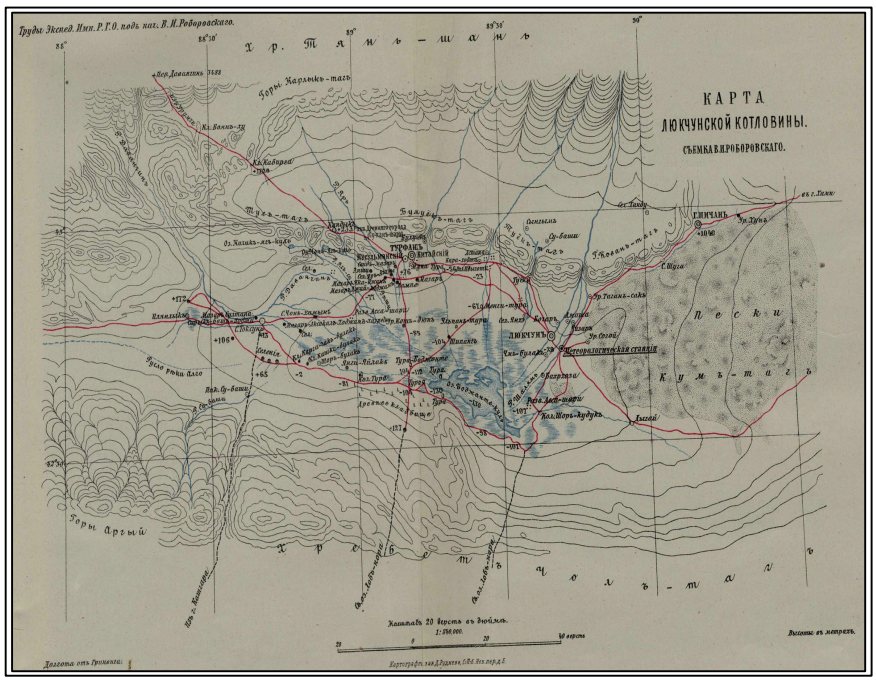
He initiated the boom of surveys and travels to the Central Asia. For the very limited period a great number of accurate, large scale maps of a vast territory were produced. To them volumes of geographical papers were attached.



Pic. 4. Fragment of a route survey of Grum-Grzhimailo to Western China, 1880-1890, Tian-Shan. 1:840 000

In the Archives these expeditions are represented by two types of maps: route survey and regional overview maps.

The first shows the narrow strip of terrain, visible from the road. They have no graticule, only magnet meridian. Except visual observations, some instrumental measurements were applied to them (barometric measurement of heights, astronomic points). Forms of relief and geographical landscape are the main content of them.



Regional maps were the result of the overlay of the route maps on the already existing maps of the previous surveys. Different from the route

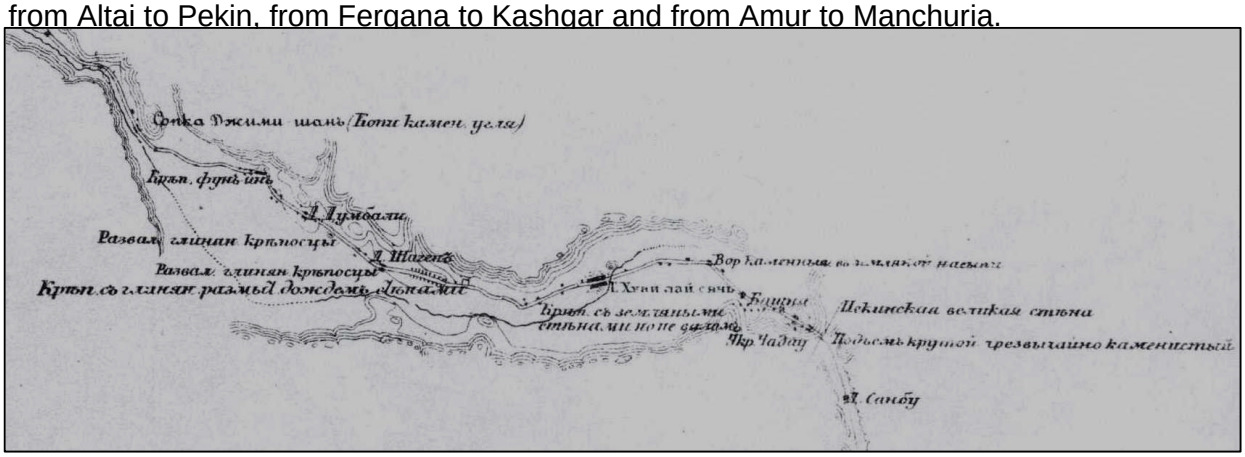
maps they were supplied with graticule.

Mapping by military topographers.

Pic. 5 Sample of a regional map. Lukchun depression, 1:210,000

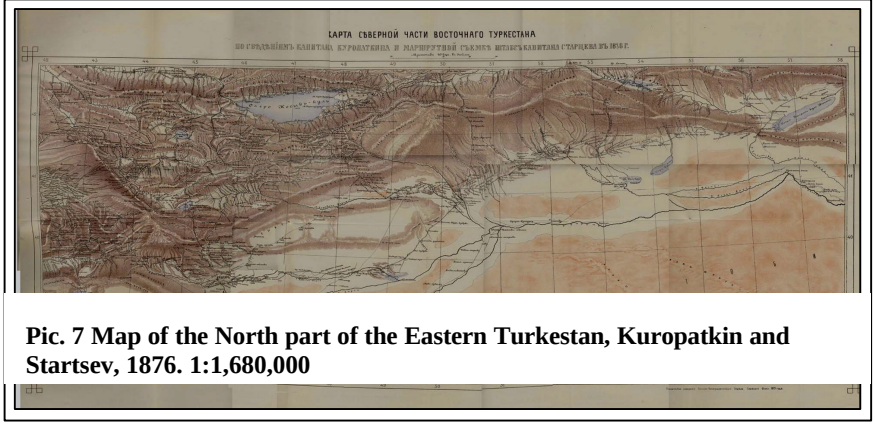
Besides the symbiosis with the Russian Geographical Society the military conducted their own surveys. They made visual route surveys for the planning of the military actions. They mapped the boundary zone for the demarcation between Russian and China, they did large area surveys of the territories attached or controlled by Russia.

During the Kulja crisis around 1880 under the danger of the war with China the Russian military set up three main directions of the possible Russian army movement into China: from Altai to Pekin, from Fergana to Kashgar and from Amur to Manchuria.



Pic. 6 Visual route survey by lieutenant Evtugin, 1:210,000

The shown sample is the section of the route from Urga to Pekin by the military expedition of the colonel Evtugin. They fixed military posts, pickets, borders, fortresses and gaps suitable for artillery. Unlike on the maps of the Geographical Society very few details on landscapes, settlements were provided.



Pic. 7 Map of the North part of the Eastern Turkestan, Kuropatkin and Startsev, 1876. 1:1,680,000

At the second most important direction the General Staff started from making the list of routes and passes from Fergana to Kashgar. The most important was through Irkeshtam. Both of these pictures are taken from the huge volume of the military report on the Eastern Turkestan and Kashgaria. It includes description of Chinese forces in Kashgaria, loyalty of Kashgarians to Chinese and Russians, trade, economy and lots of other information.

Detailed maps based on accurate instrumental survey were composed by military topographers during the demarcation between Russian and China . In some places the surveys were extended far from the border line. Here you see the reduced copy of the large

scale instrumental survey of Kashgaria and Eastern Turkestan. It had been done by Kuropatkin and Startsev in 1876.

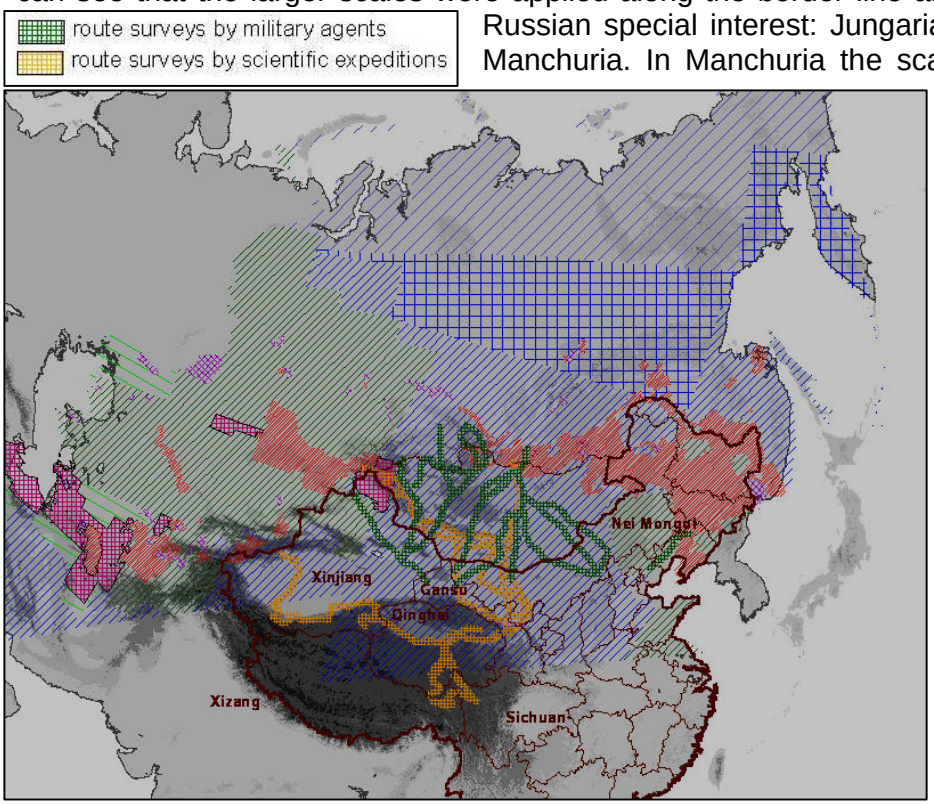
Based on this and later surveys it was compiled one the pieces of the large scale map of the whole Turkestan military district. This map was being republished and reviewed several times from 1890 to 1931.

Conclusion on the history of the Russian mapping of the China

Here in the table you can see the overview of various types of maps, produced in XIX century. They are grouped by origin, scales, content and presence of the supplemental textual data.

Source type	Method of creation	Scale	Objects on maps	Additional information
Trade expeditions	Textual itineraries, schemes, toponyms by questioning	Various	**Populated places (markets)** Caravan routes	Landuse, economy, trade, history, distances
Scientific expeditions of the Russian Geographical society	Visual route survey, semi-instrumental survey. Toponyms by quest.	1:42,000 – 1:210,000	Reference locations Physiographic features Transportation features **Populated places** Magnet meridian	Physical geography, mapping technology
Military surveyors	Visual route survey, semi-instrumental survey. Toponyms by quest.	1:42,000 – 1:210,000	**Military areas** **Transportation features** Reference locations Hydrographic features ***Populated places*** Buildings Religious facilities	***Detailed description:*** Terrain ***Hydrographic conditions*** Sources for fuel, fodder and food Climate and weather Ethnography Military forces
Scientific expeditions and military surveys	Regional maps - new data placed over existed regional maps. Semi-instrumental; instrumental survey	1:420,000 – 1:1,680,000	Standard content of topographic maps Graticule	Physical geography, mapping technology
	Large scale plans of cities, suburbs and small territories	1:200 – 1:1000		
Demarcation works on the Russian-Chinese border	High accuracy instrumental survey of the narrow belt along the border	1:420,000 – 1:1,680,000	Standard content of topographic maps Boundaries Graticule Border line	Detailed description of the boundary line
Few Planned cartographic surveys of large territories	High accuracy instrumental survey	1:42,000 – 1:210,000	Standard content of the topographic maps	Detailed standard legend present various features highly classified
General maps	Integration of various sources	1:1,680,000 –1: 8,400,000	Standard content of the topographic maps	Place names fixed according to special instructions

By 1918 the Russian cartographic surveys covered vast territory of China. Here you can see that the larger scales were applied along the border line and at the regions of the Russian special interest: Jungaria, Kulja, Kashgaria and Manchuria. In Manchuria the scale up to 1:84,000 was applied almost for the whole region. The scale of 1:210,000 was applied to the most of the route surveys by the members of the Russian Geographical Society.



The gap between accurately mapped regions was filled with small scale overview maps. They summarized geographical data from various Russian and foreign sources. Let me mention among them Jesuit survey, maps by

Pic. 8 Russian cartographic surveys in Asia up to 1918.

Rihtghophen, Rokgille, Danville and Klaproth as well as numbers of the Russian Geographical Society and military surveyors.

All these materials could not be viewed separately. They complimented and clarified each other. Survey by survey the unified cartographic image of Central Asia and China had been appearing. In Russian the best example of such a vision was an overview map of the whole Chinese Empire by Matusovskii.

Catalogue

As a result of our study the history of Russian mapping of China we compiled a catalogue of cartographic sources and supplemental materials. It includes historical manuscript and published maps for the territories of Western China: Xinjiang, Inner Mongolia, Tibet, Qinghai and Gansu. Besides originally Russian sources we listed maps in French, German and Chinese languages, being kept in the Russian archives. All them were widely used by our cartographers while mapping the territory of China and in view of this present interest for our investigation.

Many maps were supplied with explanatory notes, written by authors. Reports of the expeditions; route itineraries together with instructions on translation of Chinese toponyms into Cyrillic provide valuable background for identification and description of historical Placenames.

For today the list includes about 200 maps being kept in archives and libraries of the two cities: Moscow and St. Petersburg:

- Cartographic department of the Russian State library, Moscow
- Oriental department of the Russian State Historical library, Moscow
- Russian State Archive for Military History, Moscow,
- Archive of the Russian Geographical society, St. Petersburg,
- Cartographic and manuscript departments of the Russian National library, St. Petersburg;
- Cartographic department of the Library of the Academy of Sciences in St. Petersburg.

Catalogue should be considered as a preliminary version. It will be replenished and refined as new information becomes available.

The most maps included in the catalogue could be used in order to extract placenames and incorporate them in electronic Georeferenced datasets providing compatibility with the modern data. But there are several specific problems that should be accounted. First of all there are positional accuracy of the mapped objects and the correctness of the geographical placenames. It will be available to the public soon at the CHGIS cite (http://www.fas.harvard.edu/~chgis).

Geometric accuracy

We should not forget that positional accuracy of the dataset could not exceed the positional accuracy of the primary data. Luckily we can evaluate it, because the texts on the methods of the Russian mapmaking are available with the maps.

We tried to evaluate positional accuracy of the original maps in order to know what to expect from the electronic datasets.

First, description by the geologist Obruchev of its route survey shows that this accuracy was rather relative. Distances were measured by the average speed of laden caravan of camels or horses moving in sands or mountains. It was checked by questioning of the local people.

Astronomic observations made for the most remarkable places were more accurate, but the following table shows the distortion of the latitude and longitude values for the city Lan-zhou, estimated by different authors. Comparing it to the modern values according to the ADL digital gazetteer we have about 6’ shift for latitude and up to 30’ for longitude.

Even coordinate systems added some uncertainty. There were used many different primary meridians: Pulkovo, Greenwich, Ferro, Paris, Kuznetsk, Pekin. The difference between Pulkovo and Greenwich estimated to be different by different authors. For example by Kozlov (expedition to Mongolia and Kham) it was 30°19'40''10'''. Obruchev mentioned it to be 30°19'39''.

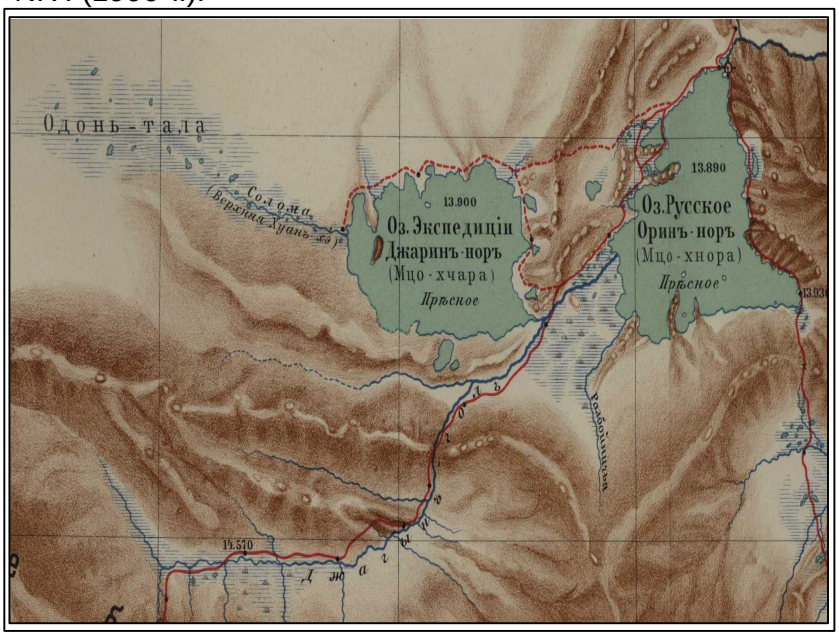
Latitude	**Longitude**	**Surveyor**
36°04'20''		Rokgille
36°08'24''	12°33'30'' (from Pekin)	Jesuit survey
36°07'05''		Sosnovskii
36°16'13''	104°26'5'' (from Greenwich)	Kreitner
36°02'68''	103°46'45''	Skassi
36°03'23''	**103°47'32''**	**ADL Gazetteer server**

Geographical names

While mapping the vast territory of Chinese Empire Russian cartographers met difficulties in representing geographical names of the Chinese origin.

We should remember the three main ways of how information about the real geographical objects appeared on the Russian maps:

During the field and route surveys toponyms were written "by ear". It was difficult to avoid misspellings. For example the followers of N.M. Przhevalskii (Rokgille) mentioned several mistakes on his maps. In 1900 during the expedition of Kozlov there was a difference in name writing on maps, edited by Kozlov and in reports by Kaznakov or Ladygin (Kyuner, N.V. (1906 ?.).



Sometimes there for the most remarkable objects (lakes, ridges, e.t.c.) **new Russian names** were introduced in order to declare the "images of greatness of the Russian Empire" in the distant lands. For example "lake Russian", "lake Expedition", "the ridge of the Russian Geographical Society". Sometimes local names were distorted for the Russian manner. For example "Khorskie mountains" ..

Several names were translated from the original Chinese maps or extracted from textual materials (from

Pic. 9 Various types of placenames (lakes) at the "Eastern Tibet (Kam)" map of Kozlov, 1900-1901, 1:840,000

hieroglyphic writing or various schemes of Latin writing).

The process of standardization of the Russian transcription of Chinese syllables from the hieroglyphic writing was slow. The first transliteration tables were formed about 150 years ago by Iakinf Bichurin. It was not universal. Though criticized for several phonetic inconsistencies it nevertheless changed slightly by today.

Since the second half of the XIX century this Russian traditional Palladii system was used together with Latin phonetic alphabets: Wade and since 1958 – Pinyin.

Only in 1982 the new instruction on transliteration of the Chinese geographical names was published. It joined the traditional Palladii system, Pinyin – Cyrillic correspondence table, several additional tables for transliteration of the geographical names of the non-Chinese origin and detailed description of special cases: translation of feature types, e.t.c.

Often names were transliterated from the maps in different languages: first of all English, French, German (which used Wade 1859-1958, Williams and then Pinyin since 1958 transliteration schemes), or maps in Uigur, Mongolian and probably some textual sources of the Tibetan origin.

Building the overview map of the Whole Chinese Empire Matusovskii mentioned as a problem the difference in linguistic and phonetic representations of the Chinese geographical names in various languages of the Roman group. He told about many mistakes on the maps of China, composed as by Russians, so as by foreign authors. The person who knows China well hardly can identify the geographical object on terrain.

Here is an example of different spelling of several Chinese syllables in Russian, French and English. The same we got while compiling the table of the Pinyin-Wade-Cyrillic-French Latin correspondence (according to Klaproth maps)

Russian	French	English
???	tche	die or che
??????	tchouen	cliwen or cbuan
?? ??	hioung	hiung or hsiung
?? ???	k'iouen or khiouen	k'den or ch'flan

Another big problem deals with the **presence of various languages in China itself**. For our work it is important to know the principals of the correct Russian transcription for these languages. The modern instruction (1982) mentions additional Latin alphabets, developed on the basis on Pinyin in order to represent national differences for Tibetan, Mongolian and Uigur geographical names. The special correspondence tables are included (Instruction, 1982).

It looks like old Russian maps for of Xinjang, Kashgar, Inner Mongolia and Jungaria present placenames directly from their original spelling, or their Latin equivalents.

In the areas with the complicated ethnic history and were the population is highly nationally differentiated there could be several versions of toponyms. For example in Jungaria by Obruchev old Chinese toponyms (remained from the times of Dungan rebellion) and Mongolian names are distorted by the newcomers Kyrgyz.

Many geographical objects have several names even in native language. Usually Chinese have several variant names for each settlement, city or stow. Along with the official name there could be several local variants, which were used more often in the common speech. These different types of names could be mixed even on Chinese maps. Russians used both official names when it was available, local when they were conducting route surveys. In *the General review of the modern situation in the Western China, Kashgaria and Jungaria* (lieutenant-colonel Fedorov, 1900, ? .447-1-67) we found a table of correspondence of some Chinese placenames and Russian equivalents, placed on various Russian maps of different scales.

Russians often shown on maps several versions of the names in brackets. For example Kozlov on the map «Kam» show three variants: original Tibetan, Mongolian and new Russian.

All this means high degree of uncertainty. By today we have more questions then answers how to provide satisfactory level of accuracy for the multilingual dataset.

While building our dataset we have to transliterate Cyrillic names into Roman. Sometimes this activity means the reverse transliteration. We use the basic Pinyin table according to the modern "Big Chinese-Russian dictionary, ed. by Panasyuk, V.A., Sukhanov, V.F., 4 vol., Moscow, 1983" and in cases were we can not find correspondence of several non-Chinese syllables we use the additional tables of Mongol, Uigur and Tibetan Latin alphabet, presented in the modern Russian instruction of 1982.

Content of the Russian maps for China: geographical classifications and feature types

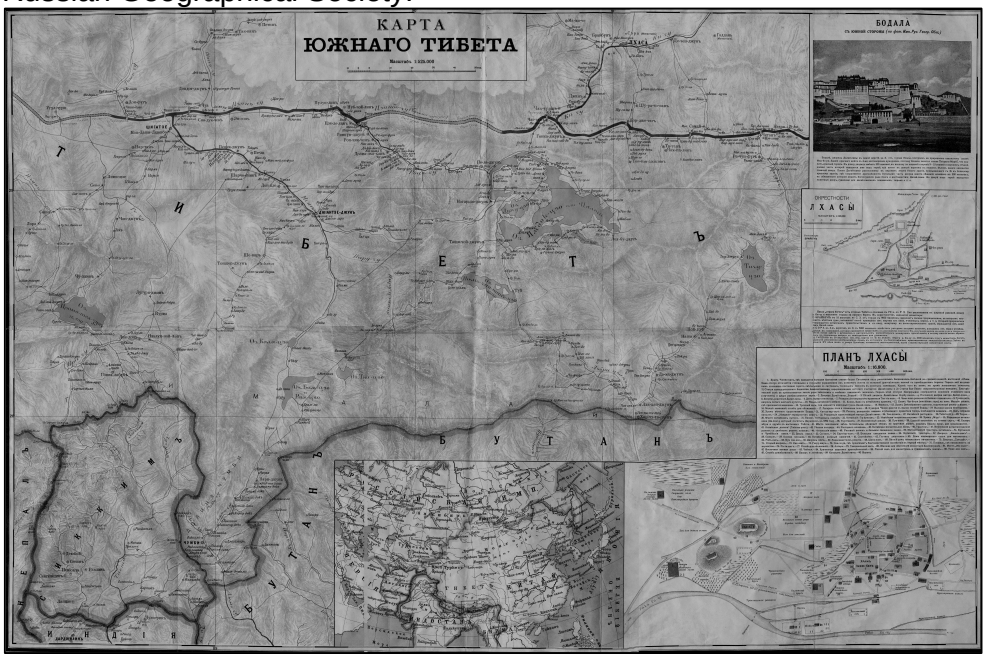
Development of the standard Russian classification for feature types lasted for decades. We found the most detailed legend on the military map of the end of XIX century ("The map of the Turkestan military okrug, 1890-1931, scale 1:420,000). We composed a correspondence table between this standard legend and classification of the feature types in the ADL Thesaurus. For the first glance we can see that:

- There are several additional subtypes within the categories (populated places, transportation features, hydrographic features, fortifications, physiographic features, religious facilities, *boundaries, communications, historical sites)*
- There is a specific category, very often fixed on maps under the term "stow". It could be included into the section Physiographic features. In broad sense it means "…any part of terrain differing from the surroundings". This term was used by Russians to define the "grazing grounds", "settling grounds", some section of the river valley, where there are mine deposits developed. This reflects the way the local people structure their geographical surrounding.
- Several placenames include the feature type as unseparable part. For example, we have populated place, but its name includes the term "*Ravat*" which means settlement with n rest-house. By the time, the map was created it could be just a settlement.

We think that a special work should be done in order to identify crosswalks with Chinese or some international standard feature classification schemes.

Sample georeferenced dataset

We started to build our sample spatial database on the basis of a map, composed by Poddubnyi, I.P. in 1904: The colored lithographic map of the Southern Tibet, I.P. Poddubnyi, 1904, 1:525,000, composed according the materials of the Great Britain Royal Geographical Society and Russian Geographical Society.

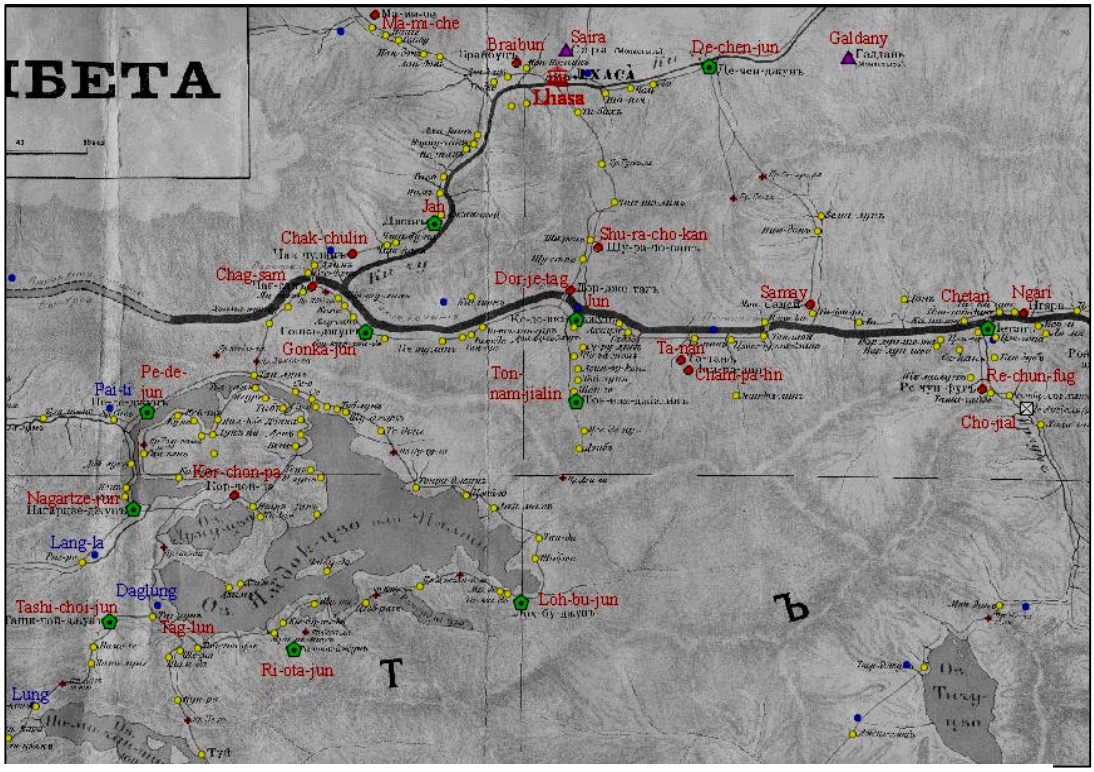


Pic. 10 Map of Southern Tibet, Poddubnyi, 1904, 1:525,000

Presumably the topographic background for this map was build by the results of the instrumental survey under the Great Britain diplomatic mission to Tibet in 1903-1904 and (?yuner, N.V. (1906 ?.). The topographic survey and triangulation works under the supervision of the captain Raider were conducted in several regions of Tibet, including Xigaze and Gartok. The whole territory covered accounted for 116.550 square km from the border of Sikkim to Lhasa. Additional large scale survey was conducted over the territory for 51770 sq. km around Gjan-tze, Lhasa and Chumbi. The whole work helped to define more exactly topographic features of the territory along rivers Tsan-po (from Xigaze toward the source) and Setlej (from the source to the Indian border). One of the results was composition of the corrected plan of Lhasa. For this survey Raider was granted the gold medal of the Great Britain Geographical society.

The map includes four settings-in: the scheme of Central Asia with State boundaries; photo of "Bodala" and short description of the palace; map of the Lhasa suburbs (scale 1:120,000), relief shown by strokes; the text about Lhasa and short description of three monasteries (Braibun, Sera, Galdan); the plan of Lhasa (scale 1:16,000) and the list of main religious facilities.

We scanned the map, georectified it and then digitized Placenames. Positional accuracy of the created dataset was evaluated in relation to the DCW Prc_popp point layer. It was calculated according to the recommendations in the Standard (FGDC-STD-007.3-1998) by formula RMSE=sqrt[$\Sigma(\Delta_i^2)/n$], where Δ - planimetric drift between point in the dataset and point in the DCW layer, n – number of control points, i – an integer ranging from 1 to n. Resulting accuracy is presented in meters being recalculated from the decimal degrees by formula: RMSE(meters)=57.29583 / 6378206.4*RMSE(dd).
The dataset has only 2 common points with the DCW layer, so the reliability of estimation is quite low - about 2.98-3.28 kilometers.



Pic. 11 Feature type classification of the Poddubny dataset.

The attributes included in our dataset are:

Element name	Data type	Units	Repeatable	Standard	Description
ID	ASCII text		No		unique string ID for features in this shapefile
Placename_Rus	Ascii text		Yes		Placename in Cyrillic without extra "?" in the end of words
Placename_Rom	Ascii text		Yes		Placename in romanized form (transliterated according to the LC scheme)
Type	Ascii text		Yes	ADL	Feature type according to ADL standard
Lat	Integer	Decimal degrees	Yes		longitude value in decimal degrees
Long	Integer	Decimal degrees	Yes		latitude value in decimal degrees
Position_cert	Integer	Meters	Yes		Plus-or-minus certainty level for positional accuracy in meters
Date	Integer	Yyyymmdd	Yes	ISO	Date of validity (yyyymmdd)
Date_cert	Integer	Days	Yes		Plus-or-minus certainty level for date in days
Map_name	Ascii text		Yes		Map source, simplified name
Map_cite	Ascii text		yes		Map source, full citation ID

The map shows point features such as: populated places, capitals, cities, gaps, lakes, mountain summits, religious facilities, historical sites, fortifications according to the Alexandria Digital Library Feature type Thesaurus. The more detailed classification of the features in the dataset in comparison to the ADL Thesaurus are presented in the table.

Classification from the Russian map	BT	Classification according to the ADL	Examples
local centers	Populated places	capitals	Lhasa
cities		cities	Jiantze-jun, Qumbi, Xigaze
villages		**unclassified**	Dege, Nargia
fortifications	Manmade features	fortifications	De-chen-jun
Ruins	MF-buildings-IA	historical sites	Cho-jial
monasteries		religious facilities	Galdany
Gaps	Physiographic features (mountains)	gaps	Tiin-gu-la
Mountain summits		mountain summits	Johnson
Lakes	Hydrographic features	lakes	Yamdok-tzo

The placenames in the dataset are given in Cyrillic and duplicated in Romanized form. Cyrillic names are taken from the source paper map. The placenames in Romanized form were transliterated according to the Library of Congress scheme and additionally BGN -

Board of Geographic Names system, which is close to LC without diacritics, but focused on phonetics. We use «yu»/»ya» instead of «iu»/»ia»for "? "/"?" in the beginning of the word.

Conclusion

A lot of cartographic materials composed by Russian surveyors for China and Central Asia provide valuable data for the historical GIS and placename gazetteers. All these archival sources now are becoming available.

While building the georeferenced electronic datasets on the basis of historical multilingual sources we should keep in mind how the original sources had been created in order to account their positional and semantic accuracy. The special work should be done in order to determine crosswalks between feature types classifications, in our case between Russian and Chinese.

The maps, we studied within the current project are only the small part of the georeferenced materials for the whole Central Asia. Information they contain could be used for reconstruction of the trade communications, demographic history, transformation of administrative division in the CA states and lots of other thematic projects. We have experience of locating and processing of this not very well known materials. We would like to suggest our knowledge in order to start the new thematic projects on the basis of Russian archival sources.