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Travelling in Russia

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TRAVELLING IN SIBERIA, BURYATIA, AND MONGOLIA

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ABSTRACT

Siberia, a vast country rich in mineral resources and a large number of different ethnic groups. To the east of Lake Baikal is Buryatia with capital Ulan Ude. The Buryat are closely related to the Mongolians. Ulan Ude is connected to Ulaan Baatar (Ulan Bator) the capital of Mongolia by train – a 26 hours trip. Getting a visa to Russia is not a simple case. Visits to metallurgical research laboratories, Lake Baikal, and historical museums are enriching experience.



Map of the former Soviet Union

1. RUSSIA¹

1.1 USSR 1957

In the 1950s when I was a student at the Technische Hochschule in Vienna (now Technische Universität Wien), I was a convinced socialist so when the Youth Festival was scheduled in Moscow in August 1957, I thought of taking part (Figure 1.1.1). Travel agents in Vienna were organizing group trips to Moscow by train at a reasonable price that I could even afford. This encouraged me to go to the Soviet Consulate and take a visa to Moscow on a piece of paper separate from my Egyptian passport because at that time my passport did not include the USSR among the countries to be visited.



Figure 1.1.1- “Za Mir e Droushba”, For Peace & Friendship. Moscow Youth Festival Summer 1957

The train trip started from Vienna took two days with short stops in Prague, Warsaw, and Brest before arriving to Moscow. We were in a modest hotel, three in a room. The crowds, the festivities, the museums, were very impressive. Incidentally, I had to stand in a long line to visit the Mausoleum in the Red Square to see Lenin and Stalin². But one immediately feels that he is in a police state. Everything is controlled; nothing is as beautiful as in Vienna, the people were very anxious to talk to foreigners, a sign that they were not well informed about the outside world. Very few could communicate in English, German, or French. This was not the “Paradise on Earth” that I heard about it to be. Gradually, my thoughts started to change. I sensed that there was something wrong with the Soviet System.

1.2 USSR 1977

My second visit to the Soviet Union took place twenty years later in 1977. I was then professor at Laval University in Canada and applied to participate in the Exchange Program Canada-USSR during my sabbatical leave. My demand was easily accepted because my two volumes *Principles of Extractive Metallurgy* were translated in 1975 by Russian colleagues at the Mining Institute in Leningrad and the Academy of Sciences in Moscow (Figure 1.1.2). I was corresponding with Professor Ivan N. Maslennitsky who had visited the US Bureau of Mines in the 1920s and used to write in good English. Unfortunately, I never met him because he died few years before my visit in 1977. I met his brother who was also a

hydrometallurgist at the Mineral Beneficiation Institute in Leningrad known by the acronym “Mekhanobr”, which was next door to the Mining Institute. The Mining Institute was my chief host (Figure 1.2.3).



Figure 1.2.2- Russian translation of F. Habashi, *Principles of Extractive Metallurgy*

Originally, the trip was planned to start in the first half of September, but due to delays from the side of the Academy of Sciences of USSR, the visa was obtained only in October 11, 1977. The visit was also planned for three months, but for reasons that became clear later it was shortened to five weeks. Further, the visa issued in Ottawa was for two weeks only and was limited to Leningrad and Moscow. In Leningrad, I expressed dissatisfaction at the Academy of Sciences that it was not worth the expenses to come from Canada to spend only two weeks and that I left Canada with the understanding that I would spend three months. I finally succeeded in having my visa extended for another four weeks and obtained a visa for Alma Ata and Tashkent. The addition of Tashkent became necessary when I mentioned that I was going to India for a conference after leaving Alma Ata. Tashkent is the only exit from the Central Asia republics of the USSR and is near to the Almalik Copper Smelter which I hoped to visit.



Figure 1.2.3- Visiting the laboratories of the Metallurgy Department at the Mining Institute in Leningrad

For no reason the Academy refused my visit to the Ural Polytechnic Institute in Sverdlovsk although the visit was proposed in my original program. I was supposed to meet there Prof. I.A. Kakovskii who is doing work in heterogeneous kinetics and extractive metallurgy of interest to me, and with whom I was in correspondence for many

¹ Names of cities changed during the Communist regime and were restored thereafter. They are mentioned here in their historical context

² Stalin was removed from the mausoleum few years after Nikita Khrushchev came to power in 1957

years. Further, it was clear that the Academy has nothing more to show me since all other visits which were not mentioned in my preliminary program were refused with the excuse that three to four weeks were needed to get permission. Thus, I was refused visits to the All Union Institute for Aluminum and Magnesium Research known as VAMI (the acronym of the Russian name) which is located in Leningrad, and is famous for developing the process for recovering aluminum oxide from nepheline-synite as a substitute to bauxite. Also, I was refused a visit to the State Institute of Nonferrous Metals Research known as GINSVET-MET which is located in Moscow and is mainly concerned with the extractive metallurgy of copper. However, after more than two weeks negotiations I was granted permission to visit the State Institute for Nickel Research known as GIPRO-NICKEL located in Leningrad on condition that I give a lecture there. I knew about these institutes only during my stay in Leningrad.

My stay in Leningrad coincided with the celebrations for the 60th anniversary of the "Great October Revolution" which takes place on November 7. For this occasion, all offices were closed from 4 to 8 November inclusive; November 5 and 6 being a week-end. It is one of the most important festivals in the Soviet Union and is equivalent to Christmas in Western countries because people exchange greetings cards. The Academy invited me to watch the military parade which I disliked.

The Academy in Leningrad planned a meeting for me with Prof. N.V. Gudima to take place in Moscow as I requested in my original program. Prof. Gudima is the Head of the Institute of Nonferrous Metallurgy of the Academy of Sciences in Moscow; he participated in the translation of my book. I heard in Leningrad that he had just retired at the age of 82. While in Moscow, nobody in Prof. Gudima's office was aware of my visit, and further, Prof. Gudima was out of town. It was even puzzling to know that the Academy in Moscow was unaware of this visit, instead, a visit to Prof. Sakalovsky, Head of the General Chemistry Department at the University of Moscow was being planned. Thus no visit to Prof. Gudima took place, and since I never heard of the name Sakalovsky. I cancelled the visit to the Chemistry Department. I insisted to the Director of Foreign Relations Department of the Academy in Moscow to get permission for me to visit the Baikov Metallurgical Research Institute in Moscow during my two-day stay in Moscow which he finally did.

In summary I spent two weeks in Leningrad on this trip, a week in Moscow, and two weeks between Alma Ata and Tashkent. I was always accompanied by a guide who spoke good English. The lack of communication with Russian academics was remarkable. Nobody spoke any foreign language. I recall that during my stay the ruble was 1.10 US dollar. The control system in the hotels was very upsetting. Each floor in the hotel had a supervisor for 24 hours to whom I had to handle the room key each time I leave the room, and ask for it each time I want to go in. I had to show my identification card each time.

The negligence in maintenance of the water closets, the lack of food in restaurants and hotels, the disintegration of the buildings was something unexpected to see in the country supposedly leading the world towards social justice. The miserable quality of services in universities was very remarkable. The political literature in a variety of languages available free everywhere in hotels is quite striking. The pictures and statues of Lenin every where, was just absurd. The buildings recently constructed were terribly primitive, inefficient and outmoded. I was really shocked. I returned home a convinced anti-socialist. Relations with Russian academic circles became closer when a distinguished young professor from the Leningrad Mining Institute made use of the Canada-USSR Academic Cooperation and spent few months with me at my Department in Quebec City just before the collapse of the Soviet System.

But, of course, Leningrad on the Baltic Sea is a beautiful city, founded by Peter the Great in 1703 on a number of islands connected together by a large number of magnificent bridges. It has a large number of palaces, art museums, theaters, cathedrals which I visited on my subsequent trips as guest of the Saint Petersburg Mining Institute. Churches and cathedrals in Russia are magnificent. Worth noting are the columns made of malachite and azurite in Saint Isaac's Cathedral (Figure 1.2.4). In Peter and Paul Fortress, Peter the Great and the subsequent Russian tsars are buried. The earlier tsars are buried in the Kremlin in Moscow. Not far away from Leningrad is

Peter's Hof, a German name for Peter's Palace, known in Russian as Pavlovsk - the summer residence of Peter the Great. It is a huge palace with garden, fountains, and gilded statues. It is there the Amber room that was presented to Peter the Great by Friedrich the Great of Prussia (Figure 1.2.5). Another collection of palaces is at Pushkin, for example, Zsarskoie Selo, i.e., Tsar's village where Nicolas II the last tsar was arrested and deported to Ekaterinburg. The golden onion-shaped churches are remarkable (Figure 1.2.6). During the time of tsars, the domes were gilded by the hot amalgamation process which was highly polluting due to the formation of mercury vapors in the work place. It is said that thousands of workers lost their lives because of that.



Figure 1.2.4- Columns made of malachite and azurite in Saint Isaac's Cathedral

The Academy of Sciences

The branch of Academy in Leningrad is housed in the original palace founded more than 250 years ago which contains among other things, statues of some of the famous scientists like Pavlov and Mendeleev, and an important wall mural made of mosaic designed and built by Lomonosov. I visited the library which is claimed to be one of the most important specialized libraries in Leningrad. It is situated in a building constructed in 1940's but looks completely neglected, old-fashioned architecture, and very distressing from the inside. There are few reading rooms which are over crowded with researchers and nobody is permitted to the stack rooms.



Figure 1.2.5- The Amber Room in Peter's Hof near St. Petersburg



Figure 1.2.6- One of the many golden onion-shaped domes of the Russian churches

Leningrad Mining Institute

The Leningrad Mining Institute, now Saint Petersburg Mining University, celebrated its 200 years anniversary five years before my visit. It is the first institute in Russia to teach mining, geology, chemistry, and metallurgy, its publication *Mining Journal* founded in 1825 was the first Russian source of information for these four fields. Some famous chemists and metallurgists were teaching there. For example, the Swiss chemist Germain Hess (1802-1850) whose law of thermochemistry formulated in 1840 is well known. He also authored a

textbook for chemistry students which was the first Russian chemistry book. Among its famous metallurgists was N.S. Kurnakov (1860-1941) whom the Academy honored by naming the Institute of Inorganic Chemistry in Moscow after him.

The mining institute has an excellent Museum which comprises a rich collection of minerals and a large collection of models of furnaces and other metallurgical reactors. Its library contains an excellent collection of old books. For example it contains the original editions of Agricola, Biringuccio, Boerhaave, Basil Valentine, Robert Boyle, Barba, Bergman, Humboldt, Mendeleev, Gmelin, Gellert, Rittinger, and many others. Recent additions to the library are almost exclusively Russian books. Professors and students cannot enter the stack rooms, and further the books cannot be checked out (except Lenin Works). There is only one small reading room, always over crowded. Reference books are in locked glass cupboards along the walls. The working conditions in the library are intolerable, but the most amazing thing is that books are arranged not according to subject matter but according to their sizes. This is claimed to make full use of the space. Thus, Group A are books 10 cm high, Group B are 12 cm high, Group C are 14 cm high, etc.

I was asked by the Chairman to give a seminar on my research extractive metallurgy. My topic was "Recent Advances on the Extractive Metallurgy of Copper", and it was well attended but the audience had to wait one hour until the interpreter comes (he was sent by the Academy to extend my visa which was about to expire), and to suffer because of the tedious and out of date system of projection of slides.

Mendeleev Museum

Dmitrii Ivanovich Mendeleev (1834-1907) the most famous Russian chemist, who is also well known all over the world as the founder of the Periodic System of the chemical elements, was teaching at the University of St. Petersburg from 1857 to 1890. He also studied there at the Pedagogical Institute from 1850 to 1855. During the years 1866-1890, Mendeleev lived in a three-room apartment in the University building adjoining the chemical laboratory as did all the professors of the chemistry at that time. This same apartment has been preserved as the Mendeleev Museum. The Director of the Museum is also Head of the Inorganic Chemistry Department, the same Chair that was occupied by Mendeleev

Lomonosov Museum

This museum is a part of the Institute of History of Science and Technology of the Academy of Sciences and houses the archives of Mikhail Vasilievich Lomonosov (1711-1765), the Famous Russian scientist, philosopher, and poet.

1.3. Russian Federation

My subsequent visits to Russia took place after the fall of the Communist regime. I recall in 1993, for example, that the US dollar jumped to 1000 rubles after it was one to one in 1957. Original names of cities and places were restored. Most monuments of Lenin were removed. Churches were opened, books about the tsars and their families were available in bookstores and street vendors. Marxist-Leninist literature disappeared, city maps became available—something that was terribly missing in my first two visits, Lenin Museum was replaced by an art gallery but tap water is, unfortunately, no longer drinkable. In Moscow, most monuments of the Communist leaders were collected together and placed in a park in central Moscow. The different nationalities in the former USSR have always been and still are a hot problem. I met a member of a Russian family from the diamond-rich Yakutsk Republic whose family had to migrate to Russia recently because of the friction existing there with the Russians.

I was invited to visit any research center I wanted. For example:

- In Saint Petersburg, I visited All Union Aluminum and Magnesium Institute (VAMI), Saint Petersburg Institute of

Technology, and State Institute of Applied Chemistry. This last mentioned institute was completely closed to visitors because it was there that the rocket fuels were developed. I was one of the first to visit, thanks to my friends at the Mining Institute who organized the visit.

- In Moscow, I visited GINSVET-MET (State Research Institute of Nonferrous Metals) (Figure 1.3.1), Institute of Chemical Technology of Lomonosov University (Figure 1.3.2), and GIRED-MET (State Research & Design Institute of Rare Metals Industry) (Figure 1.3.3). It is remarkable that in Russia the term "Rare Metals" is commonly used for titles of research institutes involved in studying metals such as zirconium, niobium, tungsten, etc. These metals are of course not rare - - they are more abundant than gold and silver, but the terminology cannot be changed.



Figure 1.3.1- State Research Institute of Nonferrous Metals, Moscow: Dr. Iosef Reznik (sitting), Dr. Andrey Vladimirovich Tarasov, Director (standing with the book in hand), and Dr. Sergei Klushin (to the left) (Photo by Nadia Habashi)



Figure 1.3.2- Institute of Chemical Technology, Lomonosov University, Moscow: Prof. Alexander Chekmarov and his co-workers (photo by Nadia Habashi)

- In Ekaterinburg (Figure 1.3.4), the former Ural Polytechnic Institute now State University of Technology (Figure 1.3.5), Peshma Electrolytic Copper Refinery, Svedneurasky Copper Smelter at Rivda, Ekaterinburg Nonferrous Metals Processing Plant (devoted to platinum metals). Before the Perestroika, the Ural Region was closed to foreigners

because; it is said, due to the presence of military installations underground. Incidentally, it was there in Ekaterinburg that the last Russian tsar and his family were executed in 1918 on orders from the Communist Party leader of the Ural Ya. M. Sverdlov whose name was given later to the town Sverdlovsk. His statue is still standing in the center of the town. A short drive from Ekaterinburg is a monument marking the dividing line between Asia and Europe, constructed in 1853 by the exploring expedition (Figure 1.3.6).



Figure 1.3.3- State Research & Design Institute of Rare Metals Industry, Moscow: Academician Dr. Alexander Elutin, Director (far left), Dr. Yuri Karpov, Corresponding Member of the Academy, and Miss Vassilissa Baranaevskaya, Interpreter (photo by Nadia Habashi)



Figure 1.3.4- Location map of Ekaterinburg

- In Astrakhan (Figure 1.3.7), Astrakhan State University (Figure 1.3.8). Astrakhan is a major port on the Caspian Sea on the Volga delta famous for its fishing and caviar industry. It was the capital of the Tatar Khanate until 1557 when it was captured by Ivan IV. Still many Tatars are living there; they are Mongols who adopted Islam. The city is neglected because it suffered from a number of executions after the Russian Revolution. The merchants in the city were against the Bolsheviks.



Figure 1.3.5- Ural State University of Technology, Ekaterinburg: Prof. Stanislav Naboychenko, Rector (Pointing with the finger) and Dr. Sergei Shanchurov, Vice Rector for International Affairs



Figure 1.3.8- Astrakhan State University: Rector Alexander Lunyov and his Vice Rectors (Photo by Nadia Habashi)



Figure 1.3.6- Monument marking the dividing line between Asia and Europe near Ekaterinburg



Figure 1.3.7- Location map of Astrakhan

Getting a visa to the Soviet Union was an acceptable routine. A letter from the host institution must be submitted to the Soviet Consulate together with the normal application form, the photograph, and the fees. After the collapse of the Soviet Regime, strangely enough the procedure became more complicated. The host institution must first get permission from the Ministry of Foreign Affairs in Moscow

to authorize issuing a visa. Without this official document which takes usually 2-3 weeks, no visa can be issued.

A remarkable incident took place for me during one of my trips. After going through all these steps and got the visa on my passport, I discovered that there are not enough empty pages left in my passport and I had to get a new passport. Now, in Moscow airport the Pass Control officer refused to accept my visa on my old passport. He accused me to trying to enter Russia illegally with an invalid passport, although I have another valid one. I had to go to the Consul in the airport and pay a penalty and apply for another visa at a high cost. I had to sign two documents, spend about three hours until the matter was settled. I was even threatened to be put back on the next airplane and be denied entry to Russia.

A month later, I was on a trip to Vietnam. At Hanoi Airport I showed the Pass Control officer my two passports: one expired with a valid visa and the other a valid passport but without a visa. The officer informed me that I have to ask for transferring the visa from the old passport to the new one and pay a modest fee of \$5. This took few minutes to process. Naturally, this was an intelligent and a logical solution.

1.4 Siberia

Before attending a conference in Krasnoyarsk in Siberia in 2003 I borrowed a book from the library entitled *Siberia and the Exile System* by the American journalist George Kennan (1845-1924) (Figure 1.4.1) published in 1891 and strangely enough was reprinted in 1970. This work represents a heroic action of a person who risked his life and persecution by the tsar's secret police. He exposed himself to all sorts of inconveniences: cold weather, miserable traveling conditions, poor lodging, etc., just to visit the penal quarters and document the status of those exiled in Siberia mainly for political reasons. He was accompanied by an artist who drew for him pictures of the cruelest conditions those in exile had to work in the gold mines that belonged to the tsar and his family or the nobility (Figure 1.4.2).



Figure 1.4.1- The American journalist George Kennan (1845-1924)



Figure 1.4.3- Map of Siberia



Figure 1.4.2-Political exiles derived by police to work in the gold mines in Siberia belonging to the tsar

During Stalin's time rich nickel deposits were discovered in Norilsk in the north of Siberia and the region was developed mainly by forced labor (Figure 1.4.3). Krasnoyarsk is the capital of Western Siberia. It was there that Lenin was exiled for a short time. The city has an excellent Ethnographic Museum housed in a palace built by a rich merchant before the Revolution, in the form of an ancient Egyptian temple (Figure 1.4.4). The museum tells the story of Siberia, its explorations, and its peoples. Siberia is famous of its Lake Baikal the largest and deepest sweet water reservoir in the world (Figure 1.4.5). It is about 1.6 km² deep, 636 km long, an average width of 730 m, and 455 m above sea level. More than 540 tributaries flow into the lake and only one river, the Angara outflows. The name of the lake seems to come from Chinese "Bei-Khai", i.e., Northern Sea or from "Baikal" meaning sea or ocean in Yakut. Upon the Russian's arrival in the region, it was transformed to Baikal. The water is transparent to a depth of about 40 m.



Figure 1.4.4-Ethnographic Museum in the form of an ancient Egyptian temple in Krasnoyarsk

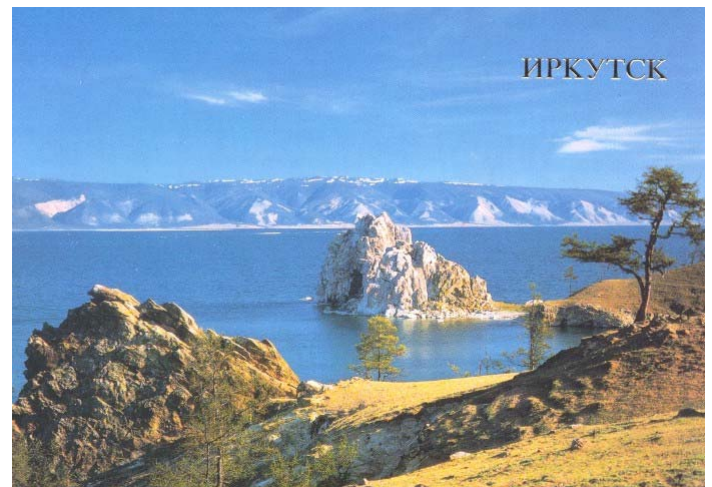


Figure 1.4.5- Lake Baikal

Of the important research institutes in Siberia are:

- Chemistry and Chemical Technology Institute of the Siberian Branch of the Russian Academy of Sciences in Krasnoyarsk (Figure 1.4.6)
- Irkutsk Scientific Research Institute of Precious and Rare Metals and Diamonds in Irkutsk, known as IRGIRED-MET (Figure 1.4.7)

In addition, there is the Polytechnical University which is the successor of Irkutsk School of Mines founded in the 1920s. The city lies on the Trans Siberian Railways.



Figure 1.4.6- Chemistry & Chemical Technology Institute, the Siberian Branch of the Russian Academy of Sciences in Krasnoyarsk, Siberia: Director Prof. Gennady Pashkov and Dr. Elena Voskresenskaya

1.5 Buryatia

The Buryats are closely related to the Mongol and their language as very similar to the Mongolian. They inhabit the eastern side of Lake Baikal (Figure 1.5.1). The capital is Ulan Ude (pronounced Ulan Oudeh) was founded in 1666 by the Kazaks who served the Russian tsar as border guards. The settlement was originally known as Verkhneudinsk and changed its name to Ulan Ude in 1934. It is connected by railways to Ulaan Baatar the capital of Mongolia and it lies on the Trans-Siberian Railways. Buryatia became the home of the Old Believers - one of the many persecuted Christian sects that did not accept the religious reforms of the sixteenth century and defied Peter the Great by growing their beards. Many of them came to Manitoba in Canada and are known as Dukhobors. It also the home of another ethnic group known as the Evenks who are supposed to be the original inhabitants of Siberia (Figure 1.5.2). Ulan Ude is the center of Buddhism in Russia (Figure 1.5.3). It has a huge bronze head of Lenin in the main square (1.5.4).



Figure 1.4.7- Irkutsk Scientific Research Institute of Precious and Rare Metals and Diamonds in Irkutsk, Siberia: Deputy Director Dr. Oleg V. Zamyatin (left), Dr. Grigori I. Voiloshnikov, Head of Hydrometallurgy Research



Figure 1.5.1- Buryatia

2. KAZAKHSTAN

I visited Kazakhstan (Figure 2.1) twice: in November 1977 when it was a Soviet Republic (Figures 2.2 and 2.3) and in October 2000 when it became an independent



Figure 1.5.2- The Evenks in Siberia



Figure 1.5.4- A huge bronze head of Lenin in the main square of Ulan Ude, Buryatia



Figure 1.5.3- Ulan Ude is the center of Buddhism in Russia: Prof. Vladimir Federov Borbat and Dr. Elena Voskresenskaya



Figure 2.1- Kazakhstan

republic (Figure 2.4). This country is unique in one respect. During the time of the tsars, it was the far away place to exile those opposing the system. During the Soviet Regime it was also the same place to exile those against. The Kazakh used to write their language in Arabic alphabet, but during the Soviet colonization, the Cyrillic alphabet had to be adopted instead. After independence, many Russian and Ukrainian professionals left the country and I know some of them who got refugee status in Canada. The new government created a new capital in the north known as Astana, changed Alma Ata to Almaty, and built a large mosque in the old capital.



Figure 2.2- Khazak Polytechnic Institute, Alma Ata 1977: members of the Metallurgy Department

Many gold objects were discovered in the tombs of the first inhabitants of Kazakhstan, known as Scythians who lived between the tenth and fourth centuries BC. A Gold Museum is devoted to these discoveries which include the Gold Man of Issyk (Figure 2.5), but the major treasure is in the Hermitage in Saint Petersburg. Many Kazakhs are still nomads like the Buryats and the Mongols, and live in special tents. After delivering my plenary talk at the conference held at the

Kazakh Academy of Science, the chairman of the Department of Metallurgy and Mineral Processing presented me with a robe of a Kazakh chief (Figure 2.6).



Figure 2.3 - At the Monument of Unknown Soldier, Alma Ata 1977: Prof. Vladimir Luganov and Rosa Khwan (Interpreter)



Figure 2.5- At the Archeological Museum with the Gold Man of Issyk, with Museum Director



Figure 2.4- Khazak Academy of Sciences, Almaty 2000: members of the Institute of Metallurgy & Mineral Processing

Titanium is produced at Ust Kamenogorsk (the Kazakh name is Oskemen) in the east of the country by reduction of TiCl_4 with magnesium. A monument 30 meters high, 2.5 x 2 meters made of concrete covered with titanium sheets 2 mm thick dedicated to the young Kazakhs who gave their lives fighting the Nazi troops, stands on the banks of the Irtish River (Figure 2.7). It contains 2.6 tonnes of titanium donated by the plant to the town. Recently (in 2003), a new zinc plant in the city went into operation using Sherritt's pressure leaching technology with formation of elemental sulfur. This is the fifth plant in the world using this technology.

3. UZBECKSTAN

In 1977, my colleagues at the Polytechnic University in Alma Ata kindly contacted the Kazakh Academy of Sciences in Alma Ata which in turn contacted the Uzbek Academy of Sciences in Tashkent to help me visit the copper smelter. In Tashkent I discovered that I was refused the visit of the smelter. Instead, I was invited to visit the huge Lenin Museum, now closed, but it was meant to be the main political instrument for the Soviet Asian Republics (Figure 3.1). The central square has a huge monument of Karl Marx (Figure 3.2). Tashkent and Samarkand were on the ancient Silk Road.



Figure 2.6- As a Khazak chief with Academician Elizaveta Ivanova Ponomareva (left)



Figure 3.1- Lenin Museum in Tashkent



Figure 3.2- Karl Marx monument in Tashkent



Figure 2.7- Titanium monument at Ust Kamenogorsk dedicated to the young Kazakhs who gave their lives fighting the Nazi troops during World War II

4. ARMENIA

Armenia (Figure 4.1) was annexed by the Russian tsars in 1828, became independent in 1918 after the Russian Revolution, a Soviet Republic in 1920 after the Bolsheviks took power in Russia, then declared its independence in 1991 after the collapse of the Soviet Union. Armenia is a small country but very rich in museums. It is still suffering from the terrible earthquake of 1988 that cost tens of thousands of lives in addition to the animosity with its neighbors that resulted in a war that broke up after the Perestroika. In ancient times she was also the battle ground between the Byzantine and the Persian empires. Mount Ararat (Figure 4.2) is now in Turkey but can be seen after a short drive south from Yerevan.

I visited the country in 1995 as a member of a delegation from Laval University headed by Dr. Henri, President of the Commission on Toponymie and former professor at Laval University, to evaluate the needs of its museums. The delegation was hosted by the Armenian Church in Etchmiadzin near Erevan the capital city (Figure 4.3). There is a unique museum devoted to metals in Metsamor near Erevan. In general one notices an artistic touch where ever one goes.



Figure 4.1- Map of Armenia



Figure 4.3- Dinner with the Catholicos of All Armenians His Holiness Karekin I, Head of the Armenian



Figure 4.2- Ararat Mountain



Figure 5.1- Map of Mongolia

5. MONGOLIA

Mongolia (Figure 5.1), the land of Genghis Khan (1167 -1227) and his descendents who terrorized Europe and occupied China in the thirteenth century, is a vast and rich country. It has only one problem - being squeezed between two super-powers, Russia and China. The Mongolians occupied China for many centuries, but in the seventeenth century it was the Chinese who occupied and oppressed the Mongolians. Genghis Khan is said to have come from Buryatia.

After the collapse of the Manchu regime in China, a young Mongolian revolutionary by the name Sukhbaatar went to Moscow in 1921 to see Lenin. He arranged for the Soviets to send a force to expel the Chinese from his country. He succeeded and became a national hero. The capital of Mongolia Urga was renamed Ulaan Baatar, i.e., The Red Hero, and the main square in the city was named Sukhbaatar Square (Figure 5.2). When Sukhbaatar was assassinated in 1923 he was buried in a Mausoleum in front of the Parliament Building in Sukhbaatar Square, an exact replica of Lenin's mausoleum in Moscow's Red Square.

Mongolia became a Soviet satellite to the point that in 1934 she had to abandon its alphabet and use the Cyrillic alphabet. There was an extensive persecution in 1937 for those who were against the new system and many Buddhist temples were destroyed. After the collapse of the Soviet Regime, Mongolia became an independent republic and the country was opened to the outside world. There are now direct flights from Berlin, Moscow, Seoul, Osaka, and Beijing. One can get a visa easily from Mongolian Consulates. The people are now not sure whether Sukhbaatar was really a hero or a traitor who handed over the country to the Soviets, replacing one repressive regime by another. Today they commemorate the memory of those who were executed defending the country. A monument was constructed in front of the Historical Museum, not far from Sukhbaatar Square for these heroes. A recent news item in a local journal mentions that the body of Sukhbaatar was cremated on August 24, 2005 to make way for the new Genghis Khan memorial complex that is being constructed to form

part of the measures for celebrating the 800th Anniversary of the Mongolian State



Figure 5.2- With my guide in Sukhbaatar Square in Ulaan Baatar

Mongolia is sparsely populated - - only 1.2 million inhabitants. But, Inner Mongolia in China is six million and still the old alphabet is used there. Ivanhoe, a large Canadian mining company is at present developing an important copper-gold deposit on the south border with China. There is a copper mine at Erdent in the north where copper and recently molybdenum are produced. In spite of its rich mineral resources there is hardly any teaching of mining and metallurgy in Mongolia. This problem was discussed with the President of the Mongolian Academy of Sciences who was my host (Figure 5.3).

6. EPILOGUE

- The Russians have, no doubt, a sense for conservation of their heritage. Every educational or research institution has a space devoted to the history of this organization and its major achievements. Such museums contain pictures of the directors and researchers, plans of the buildings and their expansion with time, pictures of students or faculty members who lost their lives defending their country, and many others souvenirs.



Figure 5.3- With Prof. B. Chadraa (center) President of the Mongolian Academy of Sciences and Rector of the University of Alaun Baatar, and Prof. B. Purevsuren Director of the Institute of Chemistry & Chemical Technology at the Academy

- Russian churches are masterpieces of architecture, Russian music is magnificent, and Russian performing arts are world famous.

- Although many things have changed to the good in Russia after the fall of the Soviet Régime, the consular system seems to have become more centralized and bureaucratic. Some of the procedures may discourage many visitors who travel to Russia on their own.
- Most hotels in Russia are still operating in the old Soviet way: one must hand his room key to the lady on his floor when leaving and then show his identity card to her again when he wants to get back - - a super way of controlling the guests.
- Russian metallurgists are erroneously using the term "Rare Metals" extensively. Institutes belonging to the Academy of Sciences are so named, conferences under this title are held, and books dealing with metals such as niobium, tantalum, titanium, zirconium, etc, are written under the title Rare Metals. Such metals are naturally not rare - - they are as abundant as copper and zinc. There is no way that this misleading terminology will ever change in Russia. In German literature the term "Sondermetalle", i.e., "Special Metals" is not very precise. It supposedly corresponds in English to the term "Less Common Metals" which is certainly the best.

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