

Geologists of Russian origin in the francophone countries

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ABSTRACT

Many ethnic Russian geologists have lived and worked in Francophone countries. We describe in this paper the life and career of geologists (i.e. all Earth scientists - geologists, mineralogists, tectonicians, geophysicists, geochemists, paleontologists, mining and drilling engineers, hydrogeologists, cosmos - geologists, etc.), regardless of their original nationality (Russians, Ukrainians, Tatars, Germans, etc.) born in the territory of the Russian Empire, the Soviet Union or the Russian Federation.

Key words: Russian geologists, Francophone countries, the History of Geology

Geólogos de origen ruso en países francófonos

RESUMEN

Muchos geólogos de etnia rusa han vivido y trabajado en países francófonos. En este trabajo describimos la vida y la carrera de geólogos (esto es, científicos de la Tierra: geólogos, mineralogistas, tectonicistas, geofísicos, geoquímicos, paleontólogos, ingenieros de minas y de sondeos, hidrogeólogos, geólogos planetarios, etc.) sin tener en cuenta su nacionalidad original (rusos, ucranianos, tártaros, alemanes, etc.) nacidos en el territorio del Imperio Ruso, la Unión Soviética o la Federación Rusa.

Palabras clave: geólogos rusos, Historia de la Geología, países francófonos

Introducción

Muchos rusos, geólogos o que posteriormente se convirtieron en geólogos, fueron emigrantes por causas políticas o económicas y se instalaron en el mundo francófono. Nuestro objetivo es recordar las informaciones concernientes a su vida y redactar su biografía a partir de la literatura o de internet.

Métodos de estudio

Hace algunos años, junto a colegas búlgaros, tuvimos la idea de recopilar los datos sobre los geólogos búlgaros de origen ruso. Esta idea ha tenido muy buena acogida por la comunidad geológica búlgara. A continuación fuimos contactados por Michel Durand-Delga, Miembro de la Academia de las Ciencias de París, que estaba interesado por la historia de la geología, para recolectar informaciones sobre los geólogos de origen ruso en los países francófonos. Él nos ha suministrado informaciones importantes, incluyendo sus propios archivos personales. Así es como vino a ser nuestro coautor, aunque hablando con propiedad más que autores somos compiladores de datos que hemos encontrado en la literatura o en internet. Desgraciadamente Michel

Durand-Delga falleció antes del final de este proyecto y lo hemos tenido que terminar sin él. Jean Ricour ha sido uno de los informadores de nuestro artículo. Este gran geólogo francés ha conocido y ha trabajado con muchos geólogos de origen ruso y nos ha suministrado muchas informaciones muy importantes sobre los geólogos que no figurarían en nuestra lista y, de facto, se ha convertido en nuestro coautor. Esta es la razón por la que le hemos invitado a ser, de jure, nuestro coautor y estamos muy honrados con su asentimiento.

Resultados

Vamos a describir dos períodos de la historia de la emigración de especialistas de origen ruso en el dominio de las ciencias de la Tierra a países francófonos: a) antes de la Primera Guerra Mundial; b) entre las dos Guerras Mundiales.

a) Antes de la Primera Guerra Mundial emigraron: Valerian Agafonoff (1863-1955; mineralogista, cristalógrafo, pedólogo), Georges Chapiro (1915-1998; geólogo, metalúrgico), Jacob Delevsky (1868-1957; geólogo petrolero), Nicolas Oulianoff (1881-1977; geólogo, geofísico, mineralogista, alpinista), Vladimir Roussanoff (1875-1913; explorador del Ártico, geólogo y paleontólogo; una bahía y una península de Nueva Zelanda, un glaciar sobre Severnaya Zemlya y una montaña en la Antártida llevan el nombre de Roussanoff), Serge Scherbatskoy (1908-2002; geólogo petrolero), Peter Tchikhatcheff (1808-1890; geólogo, geógrafo, viajero, dirigió numerosas expediciones científicas a diferentes regiones de Armenia, Kurdistán, la Tracia oriental (Turquía), en el Norte de África y en Asia Menor), Platon Tchikhatcheff (1812-1892; naturalista, viajero, va a participar en expediciones de las Américas, Asia, África. También ha dejado trazas en la historia del alpinismo, con la primera ascensión al Pico Aneto (3404 m) en España (18 de julio de 1942), Xénia de Tsyvovitch (1888-1958; bioestratígrafo, paleontólogo, especialista en ammonites del Calloviano).

b) En el período entre las dos Guerras Mundiales han emigrado hacia Francia: Nicolas Alnikin (1898-1987; ingeniero de minas), Boris Andréieff (1907-1989, ingeniero de minas), Igor Andréieff (1898-1961; ingeniero geólogo), Oleg Balboutsiev (1900 – 1963, geólogo), Vladimir Baranoff (1897-1985, geofísico), Parouyr Beglaryan (1897-1990, administrador de la industria del petróleo, miembro del Comité Central de Armadores de Francia, condecorado con la Legión de Honor), Georges de Belinko (1910 – después de 1981; ingeniero de minas), Nicolas Bondaletoff (1903-1982; ingeniero geólogo), Boris Brajnikoff (1904-1988; hidrogeólogo, petrógrafo), Georges Bryssine (1909-1980; geógrafo, geólogo y pedólogo), Youri Butleroff-Karandakoff llamado « Yuri Boutler » (1875-1945; ingeniero de minas), Herman Chelyakine (1898-1962; geólogo), Georges Cherotzky (1902-1977; hidrogeólogo, ingeniero de minas), Alexandre Choubersky (1875-1963; geólogo), Boris Choubert (1906-1983; geólogo, geoquímico, estratígrafo), Georges Choubert (1908-1986; geólogo, cartógrafo, tectonista, hidrogeólogo, doctor en ciencias, una de las personas que mejor han conocido la geología de África; C. Sallé (1987) ha escrito sobre él: ‘su obra es inmensa, polivalente, con aspectos variados’. Ha nacido sobre el terreno marroquí y refleja toda la diversidad de este país que le ha inspirado. Fue un pionero y será considerado para siempre « Padre de la Geología marroquí ».), Modeste Clerc (1879-1966; geólogo, paleontólogo, hidrogeólogo), Gregoire Chtcherbatchoff (1886-1970; especialista en la industria del petróleo), Nikolas Dechevov (1894-au plus tôt 1967; geólogo, geofísico, vulcanólogo y poeta), Mstislav Ermakoff (1878-1960; geólogo), Vladimir Frolov (1890-1973; climatólogo, hidrólogo, hidrogeólogo), Nicolas Galahoff (1911-1965; geólogo que dirigió sociedades mineras en Camerún), Valentin Glazberg (1901-1986; consultor de compañías petroleras), Stanislav Goldchtaub (1906-1978; ingeniero de minas, cristalógrafo); Rostislav Golubinov (1908-1992; geólogo), Vsevolod Golubinov (1903-1972; geochímico, escritor y artista), Michel Gorodetsky (1932-2003; geólogo y archidiácono), Alexandre Goroditsky (1901-1974; geólogo, cartógrafo, paleontólogo), Nicolas Guskov (1901- después de 1954; geólogo de exploración de yacimientos minerales, hidrogeólogo), Nicolas Grekoff (1907-1997; geólogo, micropaleontólogo), Eugène de Hautpick (entre 1880 y 1886- después de 1929; geólogo que publicó artículos en el dominio del petróleo, de los elementos radioactivos y del oro), Elisabeth Jérémine (1879-1964, geólogo, petrógrafo, mineralogista, eólogo, petrólogo; estudio material petrográfico proveniente de Canadá, Mali, Níger, Argelia, Madagascar, etc., autor de más de 110 artículos científicos), Roman Karpoff (1910?-2003, geólogo, hidrogeólogo. Sospechó de la existencia de un acuífero profundo en los alrededores de la villa de Riyad. En 1956 un sondeo alcanzó a los 1307 metros de profundidad este acuífero fósil y de excelente calidad. También fue cartógrafo y es co-autor de la segunda edición del Mapa geológico de Argelia a escala 1/500.000, publicada en el XIX Congreso Geológico Internacional de 1952), Alexandre Katchevsky (1893- después de 1938; geólogo cartógrafo, mineralogista), Witold Katchinsky (1900-?; geólogo, periodista), Alexandre Keller (1883-1946; geólogo, cartógrafo), Jacob Kikoine (1920-2004; micropaleontólogo, pintor), Ervand Kogbetliantz (1888-?1974; matemático, geofísico, doctor en ciencias, físico-matemáticas), Nicolas Koritsky (antes de 1906 - después de 1948; paleontólogo), Pierre Kornienko (1903-1976; geólogo), Georges Kotlyarov (1902-1932; geólogo), Théodore Koulomzine (1902-1932; geólogo, geofísico), Grégoire Koulyabko-Koretsky (1898-1948; geólogo petrolero), Vladimir Kovenko (1891 – después de 1957; geólogo, mineralogista),

Vladimir Krassilnikoff (1909 – 1984 ; ingeniero de minas, profesor), Viatcheslav Maïkovsky (1899 - 1985; *estratígrafo, paleontólogo*), Gleb Makaroff (1910 - 1984; ingeniero de minas), Véra Malycheff (1886-1964; *pedólogo, petrógrafo, especialista en depósitos de loess en Francia, Congo, Gabon y otros países africanos; hizo promoción en el extranjero de los métodos de la escuela rusa de pedología*), Matieu Matchinsky (1907-1981; *geofísico*), Nicolas Menchikoff (1899 - 1992; *geólogo, Doctor ès Sciences, miembro de la Academia Francesa de las Ciencias; en 1924, funda el Centro de Investigaciones Saharianas, ratificado el 20 de noviembre de 1942 al CNRS, bajo el nombre de Centro de Investigación de Zonas Áridas. le 20 novembre 1942 au CNRS, con una vocación más amplia: geología, hidrogeología, física, geofísica, zoología, botánica, biología*), André von Meyendorff (1918-1942; *geólogo, estratígrafo; estudió la geología del trayecto de la línea de ferrocarril Mediterráneo-Niger, cuando en 1942, durante una tempestad de arena durante una expedición geológica, murió trágicamente en el Sahara*). Eugène Milokhov (1899 - 1984; *geólogo*), Alexis Monomakhoff (1877-1930; *ingeniero de minas*), Constantin Monomakhoff (1897 – después de 1966; *ingeniero de minas*), Vladimir Nesteroff (1925?, *geólogo marino, sedimentólogo, doctor en ciencias*), Vsevolod Obolensky (1914 -2001; *ingeniero de minas*), Boris Ovodenko (1898-1976; *geólogo, estratígrafo, micropaleontólogo*), Georges Pachkoff (1909 -1994; *mineralogista*), Boris Perebaskin (1885 -1933; *geofísico*), Victor Perebaskin (1894-1976; *geólogo, micropaleontólogo*), Anatole Petrov (1894 - 1976; *geólogo*), Benjamin Poliakff (1881 - 1943; *geólogo, muerto en el campo de concentración de Auschwitz*), Vladimir Postriganev (1875 - 1954; *ingeniero de minas*), Nicolas Reformatsky (1901 - después de 1953; *geólogo*), Michel Rodin (1899 -1929; *ingeniero-geólogo*), Viacheslav Romanovsky (1884-1964; *geólogo*), Ivan Sagatsky (1901-1982; *geólogo*), Vladimir Schepinsky (1898-1975; *geólogo petrolero*), Alexandre Scriabine (1921 - 2009; *mineralogista*), Pierre Séménoff-Tian-Chansky (1925-2003; *paleontólogo, geólogo, amigo íntimo de Menchikoff, especialista en corales fósiles de los depósitos del Carbonífero del Sahara, alumno de James Alloiteau – el fundador de la escuela francesa de corales del Paleozoico y de esponjas*), Alexandre Soulatsky (1909-1994; *geólogo*), Eugene Stalinsky (1905-1995; *ingeniero de minas*), Pierre Taranovsky (1917-2001; *especialista del petróleo*), Karl (Kalman) Tatarsky (1888 -1944; *ingeniero de minas, geólogo*), Haroun Tazieff (1914-1998; *ingeniero agrónomo, ingeniero de minas, vulcanólogo, cineasta y escritor, político*), Raphael Trachtenberg (1895-1966; *director de minas*), Nicolas Varlamoff (1910-1976; *mineralogista; De Dycker en 1947, después de haber efectuado los trabajos de análisis de los especímenes colectados por Varlamoff, se estableció un nuevo mineral, una forma rara de la casiterita holomorfa, llamándose con el nombre de su descubridor ‘Varlamovita’*), Nicolas Vartapetyans (1919–1999; *ingeniero, cartógrafo, topógrafo, que ha trabajado como ingeniero topógrafo en una sociedad petrolera iraní*), Vladimir Vernadsky (1863 – 1945; *mineralogista, geoquímico, filósofo, doctor en ciencias, profesor, académico*), Paul Yushchenko (1895-1980; *geólogo*), Roman Zverev (1900-1954; *geólogo*).

Conclusions

Más de 90 geólogos de origen ruso han trabajado en los diferentes países francófonos: 15 en Argelia (N. Menchikoff, N. Guskov, E. Jérémine , R. Karpoff, P. Kornienko, A. von Meyendorff, P. Semenoff Tian- Chansky, Platon Tchikhatcheff , etc.); 8 en Bélgica (N. Boutakov, N. Varlamov ,etc.); 1 en Benín (R. Prokopenko) ; 6 en Camerún (N. Galahoff, etc..) ; 18 en Congo (G. de Belinko, N. Boutakov , V. Golubinov, V. Malycheff ,etc.); más de 80 en Francia (V. Agafonoff, N. Alnikin , Y. Butleroff-Karandakoff ou Y. Boutler, B. Brajnikoff, B. Choubert, G. Choubert, E. Jérémine, R. Karpoff, J. Kikoine , V. Malycheff, N. Menchikoff , A. von Meyendorff, P. Beglaryan, P. Semenoff Tian Chansky, H. Tazieff, Platon Tchikhatcheff , Peter Tchikhatcheff, V. Vernadsky, etc.); 7 en Gabón (V. Malycheff,,B. Choubert, etc.); 5 en Guinea (B. Choubert, R. Golubinov , etc.) ; 5 en Madagascar (N.Varlamoff, N. Grekoff , E. Jérémine, etc.); 1 en Mali (E. Jérémine); 23 en Marruecos (N. Alnikin, G. de Belinko, G. Bryssine, E. Jérémine, M. Ermakoff, R. Karpoff, T. Koulomzine, V. Malycheff , N. Menchikoff , V. Obolensky, B. Ovodenko, G. Choubert, R. Zverev,etc.); 1 en Mauritania (E. Jérémine); 2 en Níger (E. Jérémine, A.von Meyendorff); 1 en Nueva-Caledonia (G. de Belinko); 1 en Vietnam (V. Golubinov); 4 en Senegal (R. Karpoff, etc.); 4 en Sudán (N. Menchikoff, V.Perebaskin, etc.); 3 en Suiza (M. Clerc, N. Oulianoff, X. de Tsytovitch); 3 en Togo (V. Kachinsky, N. Koritsky, R. Prokopenko); 11 en Túnez (V. Agafonoff, G. Belinko, A. Monomakhoff, G. Chapiro, etc.); 5 en Zaire (N.Varlamoff, M. Rodin, etc.).

Introduction

Some years ago, with some Bulgarian colleagues, we decided to gather data on the Bulgarian geologists of Russian origin (Tchoumatchenco *et al.*, 2012). This

idea has been well adopted by the Bulgarian geological community. One of us (P. Tchoumatchenco) then turned to his friend Professor Michel Durand Delga, corresponding member of the Paris Academy of Sciences and interested in the history of geology, for

information on ethnic Russian geologists in the world (Tchoumatchenco *et al.*, 2014) and especially in the Francophone countries. He brought important information, including personal archives. Here is how he became our co-author (strictly speaking, we are not authors, but mere compilers of the data we were able to gather in the literature and the internet). Unfortunately, Michel Durand Delga died before the end of this project and we had to finish without him. We however had the luck that our reviewer was the geologist Jean Ricour, who personally knew and worked with some geologists of Russian origin. He gave us precious information about "new" geologists not included in our list, or completing some we already knew. Actually his information was so rich that he became, besides being our reviewer, also our informal co-author. We are proud he accepted to become our formal co-author.

Biographies of geologists of Russian origin in the Francophone countries

This list is presented alphabetically in the form of a biographical dictionary.

VALERIAN AGAFONOFF / Валериан Константинович Агафонов (*1863 Lesnoe, not far from Saint Petersburg, Russian Empire - † 1955, Nice, France) (Fig. 1), mineralogist, crystallographer, soil scientist, PhD, Professor. In 1889 Valerian Agafonoff passed a degree in physics and mathematics at St. Petersburg University. In 1893 he was hired by the Department of Mineralogy where in 1903 he presented his thesis "On the question of the absorption of light by crystals and the pleochroism in the ultraviolet part of the spectrum" and became a lecturer at the St. Petersburg Polytechnic Institute. He participated in the Poltava Province expedition led by Prof. Vassily Dokutchayev, the founder of the Russian school of soil science. Coming from a noble family, Valerian Agafonoff was involved in the revolutionary movement as a member of the Social Revolutionary Party (Deicha G.A., 1989; Malycheff V., Deicha G.A., 1956; Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In protest against the bloody repression of a popular protest in front of the Winter Palace in 1905 Agafonoff resigned and left for Paris, where he became president of the Russian refugees Association. In the years 1906-1917 he lived in France, where in 1915 he published the book "Earthquake" in Russian. After the February 1917 Revolution, he returned to Russia in 1919 where he took an active part in the founding of the Tauride University in Simferopol. V.K. Agafonoff was responsible for the relationships between the Tauride University teachers and students and those

of the Sorbonne. For this purpose he went to Paris in 1920 and moved there permanently a year later. He was welcomed at the Faculty of Sciences Physical Geography Laboratory. In 1922 he participated in the Commission for the Education of Russians in France. Author of books on Tertiary and glacial deposits in 1928 and 1935, he prepared soil maps of France and Tunisia, also participating in expeditions to Africa and South America. V.K. Agafonoff collaborated with V. Malycheff in presenting the achievements of the Russian pedological school in France and its colonies. In 1928 Agafonoff became a corresponding member of the Paris Academy of Sciences. In the 1930s, he studied Tunisia's soils together with V. Malycheff and Georges Jouravsky with whom he published several papers. Later he summarized the results of his French soil studies. In November 1933, he was decorated by the French Academy of Sciences. In 1940, he was driven off to Nice by the exodus and could not join German occupied Paris.



Figure 1. V. Agafonoff; Аргументы недели, №10, 2007.
Figura 1. V. Agafonoff; Аргументы недели, №10, 2007.

NICOLAS ALNIKIN / Николай Васильевич Альникин (* 1898 Karnaukhov farm, village Tsymlyanskaya, Don, Russian Empire - † 1987, Nice, France), mining engineer. Nicolas Alnikin (Mnouchine L. *et al.*, 2008. Tchoumatchenco P. *et al.*, 2014) studied at the Department of Mines at the Novochoerkassk Polytechnic Institute, but the Civil War interrupted his studies. In 1920, after crossing the Black Sea and the Bosphorus, their ships landed on the Gallipoli Peninsula near the Dardanelles, an event called the "Great Siege of Gallipoli". From there N. Alnikin went to Bulgaria, and in 1922 he moved to France. In Paris, he attended a course in advanced algebra at the School of the French Alliance and received diplomas from the Faculty of Geology of Paris University and the Nancy

University Institute of Applied Geology, specializing in mining engineering. In 1929 he was sent to Morocco as a chief engineer and expert in the French Society of ore industries and metallurgy. In 1920-1930 N. Alnikin wrote in Cossacks publications in Paris and Prague under the pseudonym of "Boris Nezlobin". Later he published two books of poetry in Paris.

IGOR ANDREIEFF / Игорь Александрович Андреев (* 1898 Bugulma, Samara province, Russian Empire - † 1961 Paris, France), geological engineer. Igor Andreieff participated in the WWI. Fleeing revolutionary troubles, he travelled from the Carpathians to China and Tianjin and joined the French Foreign Legion. In 1927, he went to the Sahara, and later settled in France. Igor graduated from the Faculty of Nancy, the Strasbourg Institute of Geology and the National Alsatian Petroleum School (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). From 1935 he worked at the Office of Combustible Liquids which sent him to Gabon. Igor Andreieff also participated in WWII in the French army in Equatorial Africa. He returned to France in 1955, where all trace of him is lost. BORIS ANDREIEFF / Борис Андреев (* 1907- † 1989) Engineer (HEI) mining ventilation specialist (notably, ventilation of the Mont Blanc and Fourvière (Lyon) tunnels)

OLEG BALBOUSIEV / Олег Александрович Бальбуциев (* 1900, Labin, Kuban region, Russian Empire - † 1963, France), geologist. Oleg Balboutsiev was born in the Kuban region and studied at the Faculty of Mechanics at the Polytechnic Institute. He participated in the Civil War as a lieutenant in the Kuban Cossack army and was evacuated to the island of Lemnos, and from there to Bulgaria and Yugoslavia. In 1924, Oleg Balboutsiev settled in France (Mnouchine L., 2008; Tchoumatchenco P. *et al.*, 2014.), where he studied at Besançon University and the Strasbourg Geological Institute (1931). He was known as a highly qualified professional, a specialist in general geology.

VLADIMIR BARANOFF / Владимир Николаевич Баранов (* 1897, Russian Empire - † 1985, Paris, France), geophysicist, Dr. Vladimir Baranov fought alongside the White Army in the Markov artillery battalion, which in 1920 was evacuated from Gallipoli to Bulgaria. Probably with the same battalion, he arrived in France in 1925 from Bulgaria through Poland. In Paris, he studied geophysics at the École Normale and engaged in oil exploration. In the 1930s, V. Baranov was working on his doctoral thesis. In May 1937, (Mnouchine L. *et al.* 2008; Tchoumatchenco P. *et al.*, 2014) he obtained French citizenship. Early in the same year, he moved to southern Persia engaged by a London firm as an engineer in charge of

an oil geophysical exploration. In 1938, he was sent to Saudi Arabia. During the 1940 German offensive, he left Paris and settled in southern France where the company resumed operations. Some data indicates that in 1964 he was at the CGG in Paris.

PARUYR BEGLARYAN / Паруйр (Паруан) Бегларович Бегларян (* 1897, Baku, Russian Empire - † 1990, Paris, France), director of the oil industry. After the revolution, Paruyr Beglarovitch emigrated to France through Baku with his mother Satenik Ossipovna Beglaryan (* 1867 - † 1954), a physician belonging to a merchants' family (the Ghoukasov (Ghoukassian), from Choucha, Elizavetpol province). Between 1920 and 1927 the Ghoukasov family had to immigrate to France, where S.A. Ghoukasov started the naval oil company "Overseas Petroleum". The position of powerful businessmen obliged to leave Russia was not as disastrous as that of other emigrants, as the bulk of their assets were abroad. Paruyr Beglarovitch graduated from the School of Political Sciences in Paris and the Institute of Secretaries in London. In 1940-1950, he was administrative director of oil companies in the French colonies (Tchoumatchenco P. *et al.*, 2014) and since 1960 CEO of Fraimer SA, specializing in oil shipping, which closed in 1980. P. Beglaryan was a member of the Central Committee of French Ship-owners and a recipient of the Légion d'Honneur. GEORGES DE BELINKO / Георгий Л. де Белинко (* 1910, Kharkov, Russian Empire - † after 1981), engineer of mines. George's father, Lev Belinko (* 1871 - † 1938) was a mining engineer, owner of mines in Russia. After the revolution, Lev, his wife and sons George and Alex emigrated to France in 1925. George graduated from the École Nationale Supérieure des Mines de Paris in 1928, served in the French army, then was engaged as an engineering geologist in French Equatorial Africa and in Congo and Uganda gold mines. In the 1950's, he was director of a mining company in Morocco and conducted geological investigations in New Caledonia. G. Belinko (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) was involved in geological exploration for phosphates in Morocco and Tunisia, discovering several deposits. He also worked in other countries, especially in Greece, where he discovered a cobalt deposit. In the 1970s he was chief engineer at the Centre for Studies and Research of phosphates (CERPHOS) in Morocco, where he retired in 1979 after 49 years of service (including military service) then becoming a private consultant. Georges de Belinko published several articles on phosphate sedimentation (1964, 1968). His last publications appeared in 1980-81 in collaboration with Chinese scientists, discussing the influence of paleogeography on the distribution of phosphate

deposits. A member of geological, mineralogical, French and international mining companies, he was awarded the "France Libre" and the Colonial Medals. NICOLAS BONDALETOFF / Николай Михайлович Бондалетов (* 1903, Kamenetz-Podolsky, Russian Empire - † 1982, Nice, France) engineer-geologist. Nicolas Bondaletoff made his studies in the Sevastopol Marine Corps. He was evacuated with the Russian fleet in Bizerte (Tunisia) (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) There he passed the Marine Engineering degree and settled in France in 1923. He received a higher technical education and earned his living as a consulting geologist.

BORIS BRAJNIOFF / Борис Владимирович Бражник (* 1904, Far East, Russian Empire - † 1988, USA), geologist, hydrogeologist, petrographer, Dr. For 30 years Boris Brajnikoff (Tchoumatchenco P. *et al.*, 2014) was a geologist at the Ministry of Mineral Resources and professor at the University of Paris. He participated in the geological mapping of Brazil and equatorial Africa. From 1931 on, he taught geology at the Instituto de Tecnologia Industrial de Minas Gerais in Brazil. In 1960, he settled permanently in Berkeley (California, USA), where he had once worked. B.V. Brajnikoff published many articles on the topics of geology, petrology and hydrogeology, in Paris, the United States and particularly in Brazil. He also translated the Russian geological literature into English.

GEORGES BRYSSINE / Георгий Мелентиевич Брысин (* 1909, Gourev, Orenburg province, Russian Empire - † 1980, Rabat, Morocco), geographer, geologist and soil scientist. George, together with his mother, came to France, where he received his education (Tchoumatchenco P. *et al.*, 2014). He worked in Morocco at the Ministry of Agriculture in Rabat, engaged in the study of the geology, typology and climatic conditions of soil formation in the Sahara. Being known for his article with Georges Grillot in 1949, he participated in the Beni Amir irrigation project in 1945 and published a total of 17 scientific books and articles.

YURI BUTLEROFF-KARANDAKOFF (YURI BOUTLER) / Юрий Ильич Бутлер (Бутлеров-Карандаков) (* 1875, Kazan, Russian Empire - † 1945, Paris, France), a mining engineer. A graduate of the Institute of Mines in St. Petersburg he was an assistant clerk and then business manager of iron mining in Russia and a member of the Steel Committee at the Ministry of War. Around 1920 he emigrated to France (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). At the beginning he was employed as an unskilled labourer and driver. In 1932, he lectured on the extraction and organization of the Metallurgical Industry in the Russian Business Institute and on the course

"Geology and Mineralogy" in Russian at the Paris Higher Technical Institute.

GEORGES CHAPIRO / Георгий Яковлевич Шапиро (* 1915, Neuilly-sur-Seine, near Paris, France - † 1998, Paris, France), engineer, geologist and metallurgist. George Chapiro came from a Russian immigrant family living in France. He studied at the Lycée Pasteur in Neuilly and the École des Mines de Nancy where he received a degree in metallurgy and mining. During WW II, he participated in the French Resistance. In the 1940s Shapiro was an engineer in an African oil company and head of the Office of industrial mining operations in Tunisia (Tchoumatchenco P. *et al.*, 2014). He held high positions in industrial companies in various African countries, was an adviser to the central organ of the French Economic Cooperation (1968), Commissary of the Saint-Etienne (France) mining district industrial exploitation. George Y. Shapiro is a recipient of the Order of the Legion d'Honneur, the Order of Merit, the Croix de Guerre 1939-1945 and medals of the Resistance, France Libre, Volontaires de la Resistance, Participant in WW II, etc.

HERMAN CHELYAKINE / Герман Петрович Шелякин (* 1898, Novochoerkassk, Don Region, Russian Empire - † 1962, Bussy-en-Othe, dep. Yonne, France.), geologist. Don Cossack, Herman P. Chelyakin, participated in WW I and the Civil War as a cadet. In 1920, he was evacuated abroad, and worked in the Belgian Congo mines and French colonies of Africa (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). On his arrival in France, he was a driver in Paris before studying at the École des Mines de Nancy. After WW II, he returned to Africa for gold and diamond prospecting (AEF). In the 1950s, he was hired by the Mining Bureau of Overseas France (BUMIFOM), responsible for exploration. He later held a high position in the field of geology in Iran.

GEORGES CHEROTZKY / Георгий Осипович (Иосифович) Шероцкий (*1902, Russian Empire - † 1977, Rabat, Morocco), hydrogeologist, mining engineer. Georges Cherotzky (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) completed his studies at the Příbram National Mining School in the Czech Republic. Philip Russo invited him to take part in the Study Committee for groundwater in France, where Cherotzky undertook many hydrogeological expeditions between 1931 and 1935. Since 1931, and for nearly forty years, he also taught hydrogeology, mineralogy and petrology at the Rabat Mining School in Morocco. After years of geological work in the mines of Goundafa, Bou-Azzer and elsewhere, he was appointed as a petrographer to the Morocco Geological Survey until his retirement. G.O. Cherotzky published numerous papers on the

mineralogy of Morocco (P. Morin, 1970, 1979), and also some with Georges Choubert. He translated Russian scientific articles into French and published "The Petrographic Dictionary". His latest scientific work on the petrography of Morocco was published after his death in 1978.

ALEXANDRE CHOUBERSKY / Александр Николаевич Шуберский (*1875, St. Petersburg, Russian Empire - † 1963, Menton, France), geologist. Alexander Choubersky was a Russian soldier, evacuated in 1920 from Novorossiysk. In 1933 A. Choubersky published the geological map of Tibesti (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014), bordering Chad and Libya, and also worked in Egypt. He belonged to this generation of Russian émigrés geologists who worked in Africa: N. Menchikoff, G. Choubert, E. Berkaloff, etc. During WW II Alexander Choubersky moved to Nice. He died in a nursing home in Menton where he is buried in the local cemetery.

The brothers von Choubert, Boris and Georges, belong to a Baltic German family. Their latinized name was first written "Schuebert" and in France became "Choubert." Their parents emigrated from Russia through Finland in 1917 and settled in France in 1927. In 1930, the brothers earned their diplomas from the Nancy School of Applied Geology.

BORIS CHOUBERT / Борис Александрович фон Шуберт (* 1906, St. Petersburg, Russian Empire - † 1983, Paris, France), geologist, geochemist, stratigrapher, Doctor of Sciences, Boris Choubert, began his career as an assistant at the Brussels Free University for three years. In 1933, the French government sent him to Equatorial Africa for an exploration mission. In 1938 he was head of the Geological Survey of Gabon and in 1940 director of the Gabon mining company (Tchoumatchenco P. *et al.*, 2014). From 1952 to 1961 he was Director of the French Mining Agency in Cayenne (French Guyana), where he also was involved in geological mapping. On his return to France in 1961, he joined the National Centre for Scientific Research (CNRS) in Paris as a Research Director. Boris Choubert was involved in the geochemistry of magmas, the correlations between Precambrian igneous rocks of Guyana and Africa. He was a member of the French Geological Society, the French Society of Mineralogy and Geochemistry, the International Association of cosmic chemistry, and a recipient of the Legion d'Honneur, the Academic Palms and Colonial Medal. He is the author of numerous scientific articles and books (Morin P., 1970, 1979).

GEORGES CHOUBERT / Георгий (Юрий) Александрович фон Шуберт (* 1908, St. Petersburg, Russian Empire - † 1986, Bourg-la-Reine, near Paris, France) (Fig. 2), geologist cartographer, hydrogeologist, Doctor of

Sciences, Georges Choubert is known as one of the greatest connoisseurs of Moroccan geology. As C. Sallé (1987) writes: "His work is vast, versatile, with various aspects. It dealt with Moroccan grounds and reflects the diversity of this country that so inspired him. He was a pioneer and will forever be the "Father of the Moroccan Geology", a specialist in mineral exploration and geological mapping. Georges began his career with a geological and petrographic study of Mount Tabor in the French Alps and the Vosges Massif, working in the laboratory of Applied Geology of the Sorbonne, with the support of L. Theobald, E. Jérémme and A. Lacroix. In 1934, P. Fallot, scientific adviser to the Moroccan government, invited G. Choubert in the Mines and Geological Survey Agency of Morocco to assess mineral resources, geology and hydrogeology. In 1946 he drafted a high quality geological map of Morocco and took charge of the Kingdom of Morocco's Geological Survey. In 1960 he presented his State doctorate thesis "On the Precambrian of the Anti-Atlas Mountains" in Paris and was appointed Coordinator of the Commission for the Geological and Tectonic Map of the World for Europe and Africa. At the end of his career he was studying the Oriental Rif and the Western Mediterranean. In 1967, Georges Choubert (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) joined his brother Boris at the CNRS in France. In this way the geology gathered together again the two brothers after a 35 years professional separation period. Georges Choubert (Morin P., 1970, 1979) is the author or co-author of over 300 scientific publications and co-author



Figure 2. G. Choubert; Bulgaria, 1965; photo P.Tchoumatchenco.
Figura 2. G. Choubert; Bulgaria, 1965; photo P.Tchoumatchenco.

of the first Geological Atlas of the World, in charge of the geological and tectonic map of Africa. For his geological work Georges Choubert was awarded the Order of Merit and other Moroccan orders. He also collaborated with Moscow State University and the Institute of Geology of the USSR Academy of Sciences and published several scientific articles in Soviet journals.

GREGORY CHTCHERBACHOFF / Григорий Данилович Щербачёв (* 1886, St. Petersburg, Russian Empire - † 1970, Paris, France), member of the petroleum industry. Gregory was an officer on the Romanian front during WWI, a country where thereafter he remained. He may have served under his uncle, General Dmitry Grigorevich Chtcherbachoff (* 1857 - † 1932), who in 1920 left Romania for Nice. After Romania, Gregory Chtcherbachoff moved to France in 1924 and was employed in the oil industry.

MODESTE CLERC (CLAIRE, CLARE) / Модест Онисимович Клер (* 1879, Yekaterinburg, Russian Empire - † 1966, Russia)(Fig. 3), geologist, paleontologist, hydrogeologist, Ph.D., Professor. Modeste Clerc (Archipova N., Gorchakovskiy Pl. 1967; Gorchakovskiy Pl., K pfer P., 1995; Mazer V.A., 2010; Zorina L., 1989; Tchoumatchenco *et al.*, 2014) was born in the family of a professor of French in Yekaterinburg, who was a botanist by vocation, a well-known local history specialist, the Swiss citizen Georges Onesime Clerc (* 1845 Corcelles, Switzerland - † 1920 Yekaterinburg, Russia). Onesime Clerc arrived in Russia in 1863 at the age of eighteen. Modest Clerc left for his father's homeland, Switzerland, for his studies. He graduated in natural history at the Neuch tel Academy in 1901. Three years later, he obtained a doctorate in paleontology entitled "Monographic study of Dogger fossils from some classic beds from the Neuch tel and Vaud Jura areas" at Geneva University. Even before completing his studies, M. Clerc was teaching historical geology and paleontology at the Neuchatel Academy and Geneva University. At the same time and for four years he was Curator of the department of Geology and Paleontology at the Museum of Natural History in Geneva, for which he participated in geological and paleontological expeditions in France and Switzerland. Around 1907-1908, Clerc returned to Russia where he taught at Kiev University, the Women's College at the Don Polytechnic Institute, the Ural School of Mines, the Vladivostok Polytechnic Institute, and in various Ural cities. At the Ural Society, he directed the historical geology and paleontology section, pursuing his father's work, and becoming president in 1923. In 1919 he was appointed professor at the University of Yekaterinburg and became its rector. In 1924 he was sentenced to ten



Figure 3. Modeste Clerc; Archipova N., Gorchakovskiy P.
Figura 3. Modeste Clerc; Archipova N., Gorchakovskiy P.

years in prison for spying for France, but he was pardoned the following year. In 1930, he was again included in an industrial spying trial and sent to prison for five years. On his return, he resumed his former position and from 1940 to 1951, taught at Sverdlovsk University (formerly Yekaterinburg). He also was an advisor to many hydrogeology committees, including the construction of railways and water supply of large cities. He authored or co-authored more than 60 publications.

NICHOLAS DECHEVOY / Николай Михайлович Дешевой (* 1894, Ekaterinoslavsk / Dnepropetrovsk / Russian Empire - † ?1967, France), geologist, geophysicist and volcanologist and poet. Nicholas Dechevoy studied at the St. Petersburg Institute of Railway Engineers. On emigrating to France, he studied geology at the Universities of Nancy and Strasbourg and got a job as an assistant at the Strasbourg University's Geological Institute where he stayed until 1939 and the beginning of WW II (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In the 1930s, his interest in anthropology was roused by two publications: on the evolution of *Homo sapiens* in 1937 and on the remains of a hominid in Africa in 1939. After the war he resumed his position as an assistant in Strasbourg University but moved towards mineralogy and seismology. In particular, he examined the last two centuries' historical seismicity in France and co-authored several articles on the subject. He also published two books of poetry.

JACOB DELEVSKY / Янкель Лейзерович Юделевский / Яков Лазаревич Юделевский / pseudonyms Ю. Делевский, Галин, Волин, А.И. Комов, Липин (* 1868, Pruzhany, Grodno province, Russian Empire - † 1957, New York, USA), petroleum geologist and engaged journalist. Jacob Delevsky was a brilliant and highly

educated man. In Russia he received a distinction diploma in Law and Mathematics-Physics at the St. Petersburg University. Being engaged in activities considered subversive by the regime, he was arrested in 1890 and sent to prison, then in exile in Yakutia and in the city of Grodno. After his release in 1900, Jacob Delevsky emigrated to France where, following a degree in Mathematics at the Sorbonne, he graduated from the *École des Mines de Paris* (1904); he engaged in oil exploration in Europe, Africa and Argentina, becoming an expert in the geological study and development of oil fields, publishing in scientific journals. In the years 1924-1935 he was a consultant for oil exploration campaigns in France, Tunisia, Algeria, Spain and other countries. He was an honorary member of the French Astronomical Society, where he gave public lectures. In 1941, he moved to the United States where he joined the literary society in New York.

MSTISLAV ERMAKOFF / Мстислав Мстиславович Ермаков (* 1902, Odessa, Russian Empire - † 1954, Paris, France), geologist. His family emigrated to France in 1925. Mstislav first worked as a driver-mechanic and then studied at the Nancy School of Geology. With his degree he went to Morocco (Tchoumatchenco P. *et al.*, 2014). During WWII, he served in the French navy and returned to Morocco after the war, as chief engineer in the office of combustible liquids.

VLADIMIR FROLOV / Владимир Александрович Фролов (* 1890, St. Petersburg, Russian Empire - † 1973, Faveroles-sur-Cher, France), geographer, climatologist, hydrologist, hydrogeologist. His family emigrated to France in 1923, Vladimir studied hydrology at the Sorbonne (Tchoumatchenco P. *et al.* 2014). He specialized in arid environment hydrology and geomorphology. In the mid to late 1930s, Vladimir Frolov travelled and was engaged in rainfall forecast and irrigation in Syria, checking Lake Ontario water level changes, the climatology of French West Africa. In the 1950s with A. Pereau, he studied hydrology subjects in Italy and Czechoslovakia. In 1959 Vladimir Frolov was considered an international expert in the field of floods and climate change. At the age of 60, he was back in Africa, dealing with hydrological, hydrogeological and climatic problems in connection with aerial flows, ground and surface water in the Sahara. V.A. Frolov was president of the International Association of Hydrogeologists, author of numerous publications and translations from the Russian literature.

NICHOLAS GALAKHOFF / Николай А. Галахов (* 1911, Russian Empire - † 1965, Paris, France)(Fig. 4), geologist. Nicholas studied geology in France



Figure 4. N. Galakhoff; photo N. Lobanoff – Rostovsky.
Figura 4. N. Galakhoff; photo N. Lobanoff – Rostovsky.

(Tchoumatchenco P. *et al.*, 2014), engaged in the French colonies of Equatorial Africa, where he discovered a number of gold and diamond deposits. He also managed, for a long time, mining companies in Cameroon. He also worked in Afghanistan.

VALENTIN GLAZBERG / Валентин Наумович Глазберг (* 1901, Baku, Russian Empire - † 1986, Paris), oil company consultant. Valentin Glazberg studied at St. Petersburg University and emigrated to France. In 1940, on the eve of the Nazi occupation, his family left for England. Valentin studied law at Oxford; he moved to France after the war and was employed in the CFP (French Petroleum Company) as a lawyer.

STANISLAV GOLDCHTAUB / Станислав Львович Гольдштауб (* 1906, St. Petersburg, Russian Empire - † 1978, France), mining engineer, crystallographer, Ph.D., Professor. In exile in France Stanislav (Mnouchine L. *et al.* 2008; Tchoumatchenco P. *et al.*, 2014) graduated from the Paris School of Mines, and from the Faculty of Natural Sciences at Paris University. He was employed at the National Center for Scientific Research (CNRS). In 1930, he participated in the seminar held by Professors M.V. Biernacki and A.M. Michelson. After participating in WW II, Stanislav taught mineralogy at Strasbourg University (1947), and in 1954 was director of the Institute of Geological Sciences of the University, and a member of the National Committee for Scientific Research. Goldshtaub was engaged in the nomenclature of mineralogy, crystallography and artificial crystal growth. He was the recipient of high distinctions: the order of the *Légion d'Honneur*, the Military Cross for participation in the war, and the Order of Academic Palms.

ROSTISLAV GOLUBINOV / Ростислав Сергеевич Голубинов (*1908, Persia - † 1992, Nancy, France), geologist, Ph.D. The revolution forced the family to emigrate in 1920 via Constantinople to France.

Rostislav graduated from the *École des Mines de Nancy*. He started his career (Tchoumatchenco P. *et al.*, 2014) with geological studies in Africa and presented a thesis entitled "Geology and Gold Resources of Northeastern Guinea". He was one of the first geologists to explore the Niger basin, producing a geological map in 1950. His results in particular oriented BRGM's (French Bureau of Geological and Mining Research) prospecting work in Guinea.

VSEVOLOD GOLUBINOV / Всеволод Сергеевич Голубинов (alias Serge Golon / Serzhanov Golon) / (*1903, Urmia, Persia - † 1972, Quebec, Canada) (Fig. 5), geochemist, writer and artist, brother of Rostislav Golubinov. In 1920 he joined his family who had moved to France. In Nancy, Vsevolod studied chemistry and geology, and learned foreign languages. He travelled, undertaking geological research in China, Indochina and Tibet. In the forties, he was in the French Congo (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014), in charge of mining operations for gold. In 1954, he wrote a story entitled "Among the Wild Animals" about his trips to Africa to his wife Simone Changeux, whom he had met in Africa. The Independence troubles in Congo prevented the Golubinov Company from generating income. The couple returned to France and settled in Versailles. In France, Vsevolod Golubinov, being out of work, began writing novels and becoming very famous, with his wife, for the well-known Angélique series (books and commercial films). Vsevolod was also a painter. In 1968 he organized an exhibition in Crans-Montana (Switzerland), and in 1972 - in Quebec.



Figure 5. V. Golubinov & Changeux; e-progress.com.ua.
Figura 5. V. Golubinov & Changeux; e-progress.com.ua.

MICHEL GORODETSKY / Михаил Алексеевич Городецкий (* 1932, Congo - † 2003, Brussels, Belgium) (Fig. 6), geologist, archdeacon. Michel Gorodetsky was born in the Belgian Congo (Tchoumatchenco P. *et al.*, 2014), son of the Russian immigrants Alexis Gorodetsky and Nina Leonidovna (born Bourtsova).



Figure 6. M. Gorodetsky; family archives.
Figura 6. M. Gorodetsky; archivos familiares.

In 1936 they moved to Sofia and in 1945 succeeded to make their way to Belgium. Michel Gorodetsky earned a degree in mining engineering at Louvain University in 1955. His career began immediately in the Belgian society "Petrofina" in Congo, where he stayed until his retirement in 1992, being engaged in oil exploration. Along with his job as a geologist, Michel received a graduation in theological degree in 1986. He was a deacon in 1979 and protodeacon later at St. Nicholas Orthodox church in Brussels. He died at age 71 in Brussels.

ALEXANDRE GORODITSKY / Александр Теофилович Городецкий (* 1901, Melitopol, Russian Empire - † 1974, Vensac, France), mining engineer, geologist cartographer, paleontologist. Alexander Goroditsky took part in the Civil War in the Crimea and was expelled to Tunisia, where he worked as a supervisor for the construction of roads and civil works. He studied in France (Tchoumatchenco P. *et al.*, 2014) where he obtained a diploma from the Versailles National School of Landscape Architecture and a degree in geology from the University of Strasbourg. He was employed at the Mines Agency in Dakar (AOF, Senegal), surveyed geological maps in West Africa and studied fossils. He was a member of the French Geological Society in 1950. Since 1952 he worked at the Paris Museum of Natural History. He co-authored twenty publications in French and English.

NICHOLAS GUSKOV / Николай В. Гуськов (* 1901, Ekaterinoslav, Russian Empire - † after 1954, France), a mining and exploration geologist, hydrogeologist. After the Civil War, the Guskov family emigrated to Romania and then to France. Nicholas studied Natural Sciences at the Sorbonne and the Strasbourg Institute of Geology (Tchoumatchenco P. *et al.*, 2014). In 1930-1938, he worked in the Moroccan Atlas at the

Morocco Department of Mines and in Algeria at the Colonial Water Department. In Morocco, he explored copper deposits and participated in the making of the general geological map of Morocco. In Algeria, he worked in the Colomb-Bechar area. In 1954 he found water while drilling in the Biskra area. The drill-hole was named "Aïn Guskov" in his honour. He finished his career as a consultant in hydrogeology for the Algerian government, supervising the drilling of 60 water wells. He is one of the main authors of the first (1933-1940) and second (1951-1952) edition of the 1:500,000 scale Geological Map of Algeria. The second edition, enriched by the work of N. Guskov, G. Choubert, R. Karpoff, etc., was published at the nineteenth International Geological Congress (1952) held in Algiers.

NICHOLAS GREKOFF / Николай Иванович Греков (* 1907, Starotcherkasskaya region Don, Russian Empire - † 1997, Paris, France)(Fig. 7), geologist, micropalaeontologist. Nicholas's father, Ivan Mitrofanovitch Grekoff (* 1870 - † 1941), was an engineer Director of the Donetsk basin coal mines. Nicholas' family emigrated to France during the revolution. Nicholas graduated from the Nancy School of Geology, specializing in micropalaeontology. He was a researcher at the IFP (French Petroleum Institute) in Rueil-Malmaison (France), and also a scientific advisor to the French oil company Total; later he taught at the IFP and the Sorbonne (Mnouchine L. *et al.* 2008; Tchoumatchenco P. *et al.*, 2014). Nicholas studied samples from Africa, including those collected by the Russian-Belgian geologist B.N. Sekirsky in Congo. He received the E. Gebert prize of the Paris Academy of Sciences in 1958. Nicholas was invited in 1969 to Brazil for talks on comparative paleontology. He was the author of several scientific papers on Mesozoic

ostracods, including the Congo and Madagascar ostracods, as well as general monographs on fossil ostracods (Grekoff N., 1960).

EUGENE DE HAUTPICK captain / Капитан Евгений Х. де Отпик (* 1880 or 1886, Russian Empire - † after 1929, Adelaide, Australia)(Fig. 8), geologist. Eugene de Hautepick descended from a noble French family who left France to settle in Russia. His birth date is uncertain: 1880 or 1886. Eugene studied at the School of Military Engineering in Petrograd and published articles on oil, radioactive elements and gold in Siberia and Mongolia (1910-1913). In the period 1914-1916, de Hautpick was an officer in the 8th Army under General Brusilov in Galicia and Romania, where his regiment occupied the Romanian oil wells. He then lived in Odessa in 1920 and left for a year and a half in Constantinople. Records show that he studied at Columbia College in New York and at the Ohio University and subsequently worked in the oil fields of Pennsylvania, Virginia and Ohio (USA). He was a correspondent for the Mining Journal in the UK, where he published several articles on the economic geology of radium. On the recommendation of the Mining Journal in London, the publisher E.B. Scott prompted de Hautpick to go to Australia where there was a demand for oil specialists. In Tasmania, he was warmly welcomed by officials and politicians, but unfortunately not by local geologists. He wrote several articles on the origin of Tasmanian oil, but his colleagues accused him of plagiarism. Eugene de Hautepick (Branagan D., 2006; Tchoumatchenco P., *et al.*, 2014) then turned his attention to the Coorong in south-eastern Australia, where many oil fields had been discovered. De Hautpick guessed that the origin of the oil was to be found in the highly developed peat swamp areas



Figure 7. N. Grekoff; seraphin.typepad.fr.
Figura 7. N. Grekoff; seraphin.typepad.fr.



Figure 8. E. de Hautpick; D. Branagan, 2006.
Figura 8. E. de Hautpick; D. Branagan, 2006.

and made drilling recommendations with this intention, subsequently moving to Western Australia. In 1922-1924, he synthesized his work and prepared a general map of petroleum deposits in Australia and then left the country, settling in Paris in 1925. On May 1st 1926 he explained his theory about the influence of microorganisms in the genesis of oil at the French Geological Society. At that time, geophysical methods were widely used in mining and oil exploration. E. de Hautpick returned to Adelaide in 1927 to present a new radiometric method for the detection of metals and oil (1928, 1929). Captain Eugene H. de Hautpick was one of the most eminent geologists of his time. He is the author of over 50 scientific articles.

ELISABETH JÉRÉMINE / Елизавета Владимировна Ерёмкина (* 1879, Kamenka near Moscow, Russian Empire - † 1964, Switzerland) (Fig. 9), geologist, petrographer, mineralogist, Doctor of Sciences, Elisabeth Jérémime studied in the Bestoujev courses in St. Petersburg. She was a student and assistant of V.F. Loewinson-Lessing in petrography and of A.E. Fersman in mineralogy at St. Petersburg University. Under Loewinson-Lessing's supervision, she participated in a geological expedition to the Kola Peninsula bringing back rock samples she studied with the famous French petrographer August Michel-Lévy. In 1911 she presented a thesis under the direction of Professor Maurice Lugeon at Lausanne University on the Swiss molasse basins. In 1917, after the October Revolution, she emigrated to France through Finland under a false identity and set to work with Professor Emile Haug at the Sorbonne and at the Paris Museum of Natural History. She dealt with meteorite samples worldwide. At the Sorbonne, Elizabeth also worked with Pierre Pruvost on the description and classification of volcanic and metamorphic rocks of Normandy and Bretagne, in the frame of the geological map of France (Orcel J. 1965; Tchoumatchenco P. *et al.*, 2014). She taught Petrology at the Sorbonne and at the Nancy Institute of Applied Geology, which benefited countless students. She conducted research in the Vosges, the Armorican Massif, the Canary Islands, Mauritania and Morocco. In 1933, she participated in the survey of the Geological map of Africa by determining petrographic thin sections from several regions of North and Central Africa for the French Geological Survey. She also described several meteorites from recent falls in France, Portugal, Morocco, Cameroon, etc. She also studied petrographic material from Canada, Chad, Mali, Niger, Kenya, Algeria, Madagascar and Tahiti. Elisabeth has authored or co-authored over 110 scientific articles.



Figure 9. E. Jérémime; Orcel, 1965.

Figura 9. E. Jérémime; Orcel, 1965.

She is the recipient of the Jerome Ponti prize from the Foundation of the Paris Academy of Sciences. Jean Ricour worked with her in 1943 in the course of survey campaigns for the Pontivy 1:80,000 scale geological map led by Pierre Pruvost. He remembers her as a brave and smiling woman who wholeheartedly accepted Pierre Pruvost's jokes.

ROMAN KARPOFF / Роман Карпов (* ~ 1910, Russian Empire - † 2003, Marseille, France), geologist, hydrogeologist, Ph.D., Roman Karpoff arrived in France with his parents in 1920. He was a disciple of the Belgian professor Paul Fourmarier. He began his scientific activity within N.N. Menchikoff's team in 1941-1943, when he studied the Precambrian of Adrar des Iforas in the Algerian Sahara. In the period 1945-1946 to 1958 he was employed in the CNRS. In 1947 (P. Morin, 1980b; Tchoumatchenco P. *et al.*, 2014), he specialized in hydrogeology, discovering groundwater in Algeria and Morocco, working in Casablanca and Rabat in the Moroccan Society of Distribution. He operated in Saudi Arabia for the City of Riyadh water supply: in the 1950s, when water scarcity threatened the life of the country's capital, a group of geologists from SAFEGE, led by Roman Karpoff, suspected the existence of a water-bearing horizon; in 1956, a drill reached a fossil water-bearing horizon with excellent water at a depth of 1,307 metres. R. Karpoff is a co-author of the second edition of the Geological Map of Algeria at 1:500,000-scale that was published at the nineteenth International Geological Congress (1952), held in Algiers. In 1960, R. Karpoff presented his Dr. Sci. thesis at Paris University, where he pursued his career. At the age of 60, he was involved with a group of researchers in the study of Saharian and Saudi Arabian Paleolithic remains, as well as impact craters in the South of Algeria (P. Morin, 1980b). He was later involved in hydrogeological studies in Senegal.

ALEXANDRE KATCHEVSKY / Александр Качевский (* 1893, St. Petersburg, Russian Empire - † after 1938, France?), geologist, cartographer, mineralogist. In 1912, Alexandre Katchevsky graduated from the Vilen Military Academy in St. Petersburg with the rank of lieutenant, being subsequently sent to the 158th Infantry Regiment in Kutaisi (Georgia). A. Katchevsky emigrated to France, being employed at the National Geographic Institute in Paris. In the 1930s he went several times to Africa. Together with Boris Choubert he studied the crystalline basement, making the Congo and Gabon geological maps. Katchevsky synthesized the petrographic data collected by teams of geologists and studied by E. Jérémie. Collaborating with Jacques-Paul Bourcart he drew the first geological map of Africa, which was presented at the 16th International Geological Congress in Washington (July 1933). In 1938 Katchevsky moved to Paris, settling in Saint-Germain-des-Prés, at 7 rue Malebranche. He then worked at the Institute of the History of Science and Technology at the University of Paris. His fate after 1938 is unknown.

WITOLD KATCHINSKY / Витолд Брониславович Качинский (* 1900, Baku, Russian Empire - †?Africa), geologist, journalist. Witold Katchinsky (Tchoumatchenco P. *et al.*, 2014) emigrated to France, where he studied geology at Nancy. Upon graduation, he was sent to Africa (Cameroon, Togo), and studied gold deposits in Togo and assessed their economic potential as a by-product of iron mining. In 1935, he wrote a chronicle on the colonial mines and in 1936 a bibliographical article on geology and mining development in Togo. Witold published in various colonial newspapers: French Africa, The Political and Parliamentary Review, and the Colonial Press. In 1935, he wrote that in Africa "the sale of slaves is 90 times more rewarding than that of gold." His later fate is unknown.

ALEXANDRE KELLER / граф Александр Федорович Келлер (* 1883, St. Petersburg, Russian Empire - † 1946, Paris, France)(Fig. 10), geologist, cartographer. Alexandre Keller (Minina E., 2001) is the son of a war hero, well known and respected in Russia, Lieutenant-General Count Fedor Eduardovitch Keller (* 1850 - † 1918). In 1920, A.F. Keller immigrated to France, where he first worked in the bank. In 1928, he was in Iraq for a British oil company, then went to Syria, where he conducted research on geological and morphological structures of the Jazeera area (left bank of the Euphrates). In 1956, he co-authored a scientific paper released in a geographical magazine. He participated in geological surveys for the preparation of a geological map of Africa.



Figure 10. A. Keller; all photo.ru.
Figura 10. A. Keller; all photo.ru.

JACOB KIKOINE / Яков Кикоин (pseudonym Jacques Yankel)/(* 1920, Paris, France - † 2004, France) (Fig. 11), geologist, micropaleontologist, Doctor of Sciences, Jacob was born and raised in the Montparnasse artistic community. During WW II, he worked temporarily as a printing engraver, and then passed his degree in Applied Geology at the Sorbonne. Around 1941, he moved to Toulouse in the Free Zone, where he was an assistant in geology at the Toulouse University. He worked on his PhD in geology and micropaleontology until 1945, and presented it with honours in 1947. In the period 1949-1951 he was a geologist at the France d'Outremer, working in Sudan and Mali (Timbuktu and Gao), at the time French West Africa (AOF). In 1948 he described, among others, the foraminifera *Globotruncana spinea* Kikoine and *Gublerina cuvillieri* Kikoine. In 1951, Jakob Kikoine committed himself exclusively to painting, taking the pseudonym of Jacques Yankel. Jacques Yankel taught painting, participated in numerous international exhibitions and received several awards.



Figure 11. Jacob Kikoine; artpulsion.com.
Figura 11. Jacob Kikoine; artpulsion.com.

ERVAND KOGBETLIANTZ / Ерванд Геворкович Когбетлянц / (*1888, Nakhichevan-on-Don, Russian Empire - † 1974, Paris)(Fig. 12), mathematician, geophysicist, Doctor in Physical and Mathematical Sciences, Professor. Ervand Kogbetlyantz was a famous maths teacher who worked in Europe, Asia and America. Geophysics was his second passion, on which he left his mark with the invention of the gravimeter, patented in the late 1920s. He began his studies at the Faculty of Mathematics at Paris in 1906 (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014), then he returned to Russia where he settled with his aunt in Moscow. He graduated from the Faculty of Physics and Mathematics at Moscow State University and became assistant professor in 1915. In 1917, in search of work, he went to Ekaterinodar (Krasnodar) in the Kuban, and taught at the University. In 1920, pushed by the Civil War troubles in Ekaterinodar, he moved to Armenia with a professorship at the University of Yerevan. In Yerevan, Ervand Gevorgovitch was caught again by the riots and moved to Paris, engaged in teaching mathematics at the University of the Russian People and the Sorbonne. In 1923 he received the degree of Doctor of Science at Paris University and subsequently developed an interest in geophysics (1930). In 1933 he taught for six years at the University of Tehran, receiving the Order of Iran "For merits in the field of Science". After a stint in Paris at the CNRS, he left for the United States in 1941 as a professor at the New School for Social Research in New York, being also involved with other universities: Lehigh University in Pennsylvania, Rockefeller and Columbia in New York. In 1945-1946 he was a consultant in geophysics at Standard Oil. Upon retirement in 1968 he returned to France. E.G. Kogbetlyantz extensively published in mathematics and geophysics.



Figure 12. E. Kogbetliantz; mtholyoke.cdmhost.com.
Figura 12. E. Kogbetliantz; mtholyoke.cdmhost.com.

NICHOLAS KORITSKY / Николай Корицкий) (* before 1906 - † after 1948), geologist, paleontologist. Nicholas Koritsky was "geologically active" between the two World Wars, especially working in Togo for the geological mapping and paleontological studies of Eocene metallic deposits. He conducted joint research with W.B. Katchinsky, R. Prokopenko and French geologists for iron and chromium prospecting in Togo, but his permanent home was in Paris. His last published works date from 1948. An article from 1959 is probably posthumous.

PIERRE KORNIENKO / Петр Ф. Корниенко (* 1903, South of Russian Empire - † 1976, Marseille, France), geologist. Pierre was in the Cadet Navy Corps "Commodore Gerasimov" during the Civil War. He was evacuated in Bizerte with the Russian fleet under command of Admiral M.A. Berns. He was disbanded from the Navy in around 1925 and went to France. After studying at the École des Mines de Nancy, he was employed at the Algerian Geological Survey. Upon retirement, he moved to the south of France, but his pension was too small to live on. So he returned to newly independent Algeria, being employed as a geologist at SONAREM (National Society for Mining Research of Algeria) (Tchoumatchenco P. *et al.*, 2014) for the research of uranium. Pierre Kornienko spent the end of his life in Marseille.

ALEXANDRE KOSAKEVITCH / Александр Павлович Козакевич (*?1930, Kharkov, Ukraine), geologist, mineralogist, crystallographer. Alexandre's grandfather was Pavel Kosakevitch (* 1862 - †? 1938), a mining specialist. In 1931, he was arrested and thrown into the Butyrskaya prison in Moscow. Alexander's father, Paul P. Kosakevitch (* 1898, Perm - † after 1974, France) was a chemistry professor in Ukraine, the former Mayor of Kharkov, also in charge of the council's social welfare department. In WW II, being opposed to the soviets, he welcomed and collaborated with the "new" German military power. With the end of the war and the return of Soviet troops, however, P.P. Kosakevitch was obliged to flee with the German troops and escaped to France with his family. There he engaged in metallurgy, with the study of metal alloys. During the period 1949-1974 he published about 40 articles in the "Journal of Metallurgy" and a number in other journals. Alexander Kosakevitch (Morin P., 1970, 1980b; Tchoumatchenco P. *et al.*, 2014) was a geologist at BRGM (French Bureau of Geological and Mining Research), based at the scientific headquarters in Orleans (France). He is specialist of low temperature silicates and study the successive generations of crystallization. A. Kosakevitch wrote ten articles on mineral associations of barite, native antimony, galena, smithsonite, cerusite and other

minerals from central Morocco. Upon retirement, he was ordained a priest of the Ukrainian Autocephalous Orthodox Church in France (UAOC) in a small colony of Ukrainian emigrants living near Montargis in the Orleans area.

GEORGES KOTLYAROV / Георгий Иванович Котляров (* 1902, Goundorovskaya village, Donetsk region, Russian Empire - † 1932, Paris), geologist. Georges Kotlyarov took part in the Civil War in a regiment of the Don Cossacks. After evacuating Crimea in 1920, most of the Cossacks served in Turkey and Bulgaria, ending up in France where Georges Kotlyarov (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) graduated from Strasbourg Institute of Geology. The details of his short career could not be found.

THEODORE KOULOMZINE / Федор Яковлевич Куломзин (* 1906, St. Petersburg, Russian Empire - † 1972, Montreal, Canada)(Fig. 13), geologist, geophysicist, Professor. Theodore Koulomzine came from a noble Russian family of Mordve origin (a western Volga tribe), dating back to the sixteenth century. After the revolution Theodor and his mother managed to escape abroad in 1921 through Poland. In 1922 they lived in Czechoslovakia where Theodore finished high school. Two years later they arrived in France. In 1928 Theodore graduated in geology at the Sorbonne. In 1929, Theodore passed a Geophysics certificate at the Strasbourg Petroleum Industry School. In 1933-34, he engaged in prospection and exploration for iron deposits in North Africa (Algeria, Morocco) (Mnouchine L. *et al.* 2008; Tchoumatchenco P. *et al.*, 2014) for a French mining company. Koulomzine was then invited to the United States, but he moved the same year, probably, to Canada. Between 1937 and 1963, he used his organizational skills to launch three co-owned mining exploration companies in which extensive use of geophysical research methods was practiced. Over the years, under his leadership, 470 sites were studied and many mineral deposits discovered, especially in Quebec where Koulomzine discovered rich iron deposits. He developed numerous deposits of copper, gold, zinc and nickel, thus contributing to the emergence of the new Val-d'Or town in Quebec. He not only was a great organizer and a prominent geologist, but also a talented engineer and inventor. He developed his own methods of research and exploration drilling, for which he took out several patents. He also built a Russian Orthodox church in Val d'Or. In 1963 Koulomzine was Professor and Chairman of the Department of Geophysics at the High Technical School in Montreal, where he taught until his death. He published 23 scientific papers in English, French and German. Theodore was member of the Society of Engineers of Quebec, the Canadian



Figure 13. T. Koulomzine; thegeoscience world.com.
Figura 13. T. Koulomzine; thegeoscience world.com.

mining engineers and metallurgists, the American Institute of Mining Engineers, the Geological Society of Canada, the Society of Exploration Geophysicists and the Russian School Group of USA. Koulomzine was also known for his charity and assistance to Russian refugees.

GREGORY KOULYABKO - KORETSKY/ Григорий Александрович Кулябко-Корецкий (* 1898, St. Petersburg, Russian Empire - † 1948 Boulogne-Billancourt, near Paris, France)(Fig. 14), a petroleum geologist. At the end of the Civil War, Gregory Koulyabko-Koretsky was evacuated by the Russian fleet to Bizerte in Tunisia. In 1922 Gregory graduated from the Marine Corps in Bizerte and settled in France in 1923. After graduating from the Strasbourg Mining Institute, he specialized in oil and gas exploration and exploitation (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014), and subsequently was employed in the development of oil fields in Algeria.



Figure 14. G. Koulyabko-Koretsky; svvmin. Ru.
Figura 14. G. Koulyabko-Koretsky; svvmin. Ru.

VLADIMIR KOVENKO / Владимир Ковенко (* 1891, Novgorod, Russian Empire - † after 1957, France?), geologist, mineralogist. Vladimir Kovenko received his geological formation in St. Petersburg. In exile, he first lived in north-west France, Le Havre, and then left for Turkey and later Africa. In 1937, he was employed in Turkey at the Research Institute for Mineral Exploration (Maden Tektik ve Arama Enstitüsü), Ankara, where he was engaged in geological and mineralogical research and discovered an iron deposit. In 1951, he participated in the survey of the Northern Algeria geological map. In 1957, he was engaged in copper prospecting in Madagascar. His professional interests were varied: sedimentation, geochemistry and mineralogy, prospecting (zinc, magnetite, and tourmaline), ophiolitic rocks, the classification of granites and alkaline rocks and also translated the Russian geological literature. He published numerous scientific articles in Turkish, German and French as author or co-author.

VLADIMIR KRASSILNIKOFF / Владимир Александрович Красильников (* 1909, Paris - † 1984 Rabat, Morocco), mining engineer, Professor. Vladimir Krassilnikoff was probably born when his father was at the Russian Embassy in Paris. After the revolution, his parents moved to Belgium (1920), and subsequently to France (Mnouchine L. *et al.* 2008; Tchoumatchenco P. *et al.* 2014). In Morocco, Vladimir Krassilnikoff was a professor at the Mohammedia School of Engineers (EMI) founded by King Mohammed V in 1959, teaching engineering geology and mineralogy. He used to give field training to his students, taking them by train or car around Morocco, and visiting various mining sites, including the Djerad mine. Vladimir Krassilnikoff lived in Rabat, where he is buried.

VIACHESLAV MAIKOVSKY / Вячеслав Вацлавович Майковский (* 1899, Kiev, Russian Empire - † 1985, Massy, near Paris), geologist, stratigrapher, paleontologist, Ph. D., Viacheslav Maïkovsky fought in the White navy during the Civil War, which earned him the distinction of the Order of St. Georges. Evacuated with the Russian fleet in Bizerte, he graduated from the Marine Corps in 1922, and then settled in France. There he graduated from the Strasbourg University's Faculty of Natural Sciences. (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014.), and in 1926 was employed as engineer - geologist in the Alsace Potash Mines. In 1951, together with his colleague E.V. Milokhov, he discovered a deep extension in the Merkwiller-Pechelbronn oil field. Today, all is left from oil exploration in Alsace is in a museum. V. Maïkovsky was appointed chief engineer, later becoming head of the Department of Mineral Exploration in Alsace,

where he also directed the geology and geophysics section. Two publications are known from Maïkovsky, including a paleontological and stratigraphical study of the Alsacian potash basin and a geological map of the Oligocene (1941).

GLEB MAKAROFF / Глеб Глебович Макаров (* 1910, Yaroslavl, Russian Empire - † 1984, Brussels), mining engineer. Before and during WW II, Gleb Makaroff was a mining engineer in the African Belgian colonies. In the period May 1940 to June 1941 the Belgian administration was wary of Russian immigrants, classifying them as Soviets, the allies of the Germans invaders of Belgium. The Belgian attitude towards Russians changed after June 22, 1941 and the invasion of Soviet Union by the Germans (the Barbarossa operation). In the 1960s Gleb Makaroff started his own plantation, which generated additional income. In the years 1960-1965 the civil war destroyed the Congo's economy. In 1964, Gleb Makaroff was stopped at Stanleyville by one of the warring factions and locked up for 40 days. One day, as they were walking under custody in the street, there was some shooting around. Makaroff fell flat on the ground pretending to be dead, which saved his life. Gleb Glebovitch spent the rest of his life in Belgium, where he died in his 74th year.

VERA MALYCHEFF / Вера Сергеевна Мальшева (* 1886, St. Petersburg, Russian Empire - † 1964, Paris, France), pedologist, petrographer. Vera Malycheff was a nurse during WW I and an assistant at Petrograd University. On her arrival in France, she was a researcher at the Laboratory of Physical Geography at the Sorbonne (1930-1945), collaborating with the Laboratory of Mineralogy at the Paris Museum of Natural History and the Institute of Anthropology (Human Paleontology), and also teaching at the Russian Faculty of Physics-Mathematics at the Sorbonne. Together with the geologist and pedologist V.K. Agafonoff she studied the Moroccan "fat lands", the Tunisian soils, and the Paris Basin loess deposits, participating in a French and Tunisian soils monograph (Mnouchine L. *et al.*, 2008 ; Tchoumatchenco P. *et al.*, 2014). She also studied loess deposits in Congo, Gabon and other African countries. She is the author of numerous scientific articles and books, particularly on loess soils.

MATHIEU MATCHINSKY / Матвей Владимирович Мачински (* 1907, Orenberg, Latvia, Russian Empire - † 1981, France), geophysicist, mathematician, physicist, Ph D, Professor. He studied at Leningrad University, notably at the famous Frenkel seminary. At an early age, he already was the head of the Leningrad Mining Institute, publishing in geophysics, on the theory of drilling, etc. He presented his PhD thesis

in 1940, and was invited to direct the Department of Theoretical Physics of the newly created Karelia-Finland University in Petrozavodsk, where he taught geophysics. During WW II, Mathieu Matchinsky found himself in the German-occupied territories (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). After the war, he left for Germany and in 1950 for Paris, still engaged in geophysics. In 1953 he was a Professor at the Statistics Institute in Paris University, and in 1967 settled in Bourg-la-Reine, near Paris. His name is associated with the discovery of the "Law of heights", also called the "Matchinsky's Law", with the geological theory of orogeny (geosynclines) and with the concept of logical links between sciences on diverse topics. He published three books and 280 papers: in Earth Sciences (127), Mathematics (78), Mechanics and Physics (49), and Philosophy (26). He was a corresponding member of the French Academy of Sciences, the Dijon Academy of Arts and Letters, etc.

DMITRY MATVEIEFF / Дмитрий Матвеев - in the 20s and 30s teamed with G. Choubert and other consultants at the Department of the Morocco Geological Map.

NICHOLAS MENCHIKOFF / Николай Николаевич Меньшиков (* 1899, Moscow, Russian Empire - † 1992, Paris, France)(Fig. 15), geologist, Ph.D. He belongs to the lineage of the great geologists and explorers of the Sahara. N. Menchikoff attended high school in Moscow. In 1920 he joined the White Army of General Wrangel, as a radio operator on the ship "Kronstadt", in charge of maintaining contact with the foreign allies. Together with Lieutenant V.A. Choumovitch, Head of Communications of the Russian fleet in Sevastopol, they ended up in Bizerte. In Tunisia Menchikoff, together with V.A. Choumovitch, was employed in the Sfax phosphate deposits. Choumovitch later moved towards the zoological and botanical exploration of the Sahara. The Sahara Natural Science Museum in Metlaoui (Tunisia) is named in his honor. In 1921, N. Menchikoff went to Marseille and Paris, where he studied geology at the Sorbonne. He presented his doctoral thesis in 1931, while employed in the French Geological Survey and that of Morocco. His lifelong professional activities were devoted to the geological exploration of Sahara in Egypt, Morocco, Sudan, and Algeria. Nicholas Menchikoff made great contributions to the geological knowledge of Algerian Sahara in the search for water, mineral and oil exploration (including the discovery of copper deposits). Nicholas Menchikoff's popularity in the profession is due in part to his charisma, his contagious enthusiasm and skill that entrained a team of geologists, among them A. Cornet, Jean Dubieff, F. Jacquet,

Roman Karpoff, Jean-Philippe Lefranc, Maurice Lelubre, A.T. Meyendorff, A.A. Moussine-Pouchkine, P.N. Semenoff Tian-Chansky, M.P. Wiazemsky (ex Donzeau). He is well known also for the foundation of the Saharian Research Center (CRS): he bought with his own money a plot of land in the oasis of Beni-Abbes, in the southern Oran area in Algeria and in 1924, he founded the CRS, oriented in geology and hydrogeology, with an office in Paris. In November 20, 1942 the CRS was attached to the CNRS (French Scientific Research Agency), and renamed CRZA (Center for Research in Dry Areas), this time with a broader scope, including geology, hydrogeology, physics and geophysics, and biology (zoology, botany). N. Menchikoff was its first Director. In France, the CRZA Paris office was complemented by a CNRS laboratory in Montpellier, focusing on geology, geophysics and hydrogeology. Menchikoff is the author or co-author of more than 56 major geological publications. He was a member of the French Academy of Sciences, an officer of the Légion d'Honneur (1953), holder of the Order of Academic Palms, the Order of Merit (1958), of the Prestwich Prize (1948), and the Prix Albert Gaudry (1981).



Figure 15. Hammer and brief-case of Nicholas Menchikoff; Mouley Charaf Chabou.

Figura 15. El martillo y el maletín de Nicholas Menchikoff; Mouley Charaf Chabou.

ANDRÉ MEYENDORFF / BARON ANDRÉ VON MEYENDORFF / Барон Андрей Феофилович фон Мейендорф (* 1918, Vyborg, Russia, † 1942, Western Sahara, Algeria), geologist, stratigrapher. He was probably born on the road of his parents' emigration through Finland and Denmark to Paris, where they settled in 1921. Following incredibly fast studies, the talented André Meyendorff passed his degree in two

years at Paris University's Faculty of Science, becoming a geologist at the age of 19. He started working in the Sahara in the company of N.N. Menchikoff, engaged in Paleozoic stratigraphy (Bourcart J. 1943; Jigaltzova L., 1991; Mnouchine *et al.*, 2008; Tchoumatchenco *et al.*, 2014). In 1938, following his first trip to Algeria, he brought back to France his valuable rock samples that formed the basis for his doctoral thesis on the Cenomanian marine transgression in Western Sahara. At the beginning of WW II he graduated as second lieutenant from the officers' school and was assigned to the geologic study of the Mediterranean-Niger railway track. In the course of this work in 1942, he was in the company of his two guides when they were caught in a sandstorm and lost their way. Half-dying of thirst, they could not find the well to which they were heading. They instead came across an abandoned magnesian water well. Andrew and one of the guides could not refrain from drinking and got caught with strong dysentery that prevented them from moving. The second guide, resisting the urge to drink, left for help, roping himself to his camel to avoid falling with weakness. Half dying with thirst, he was able to reach their base in Reggane to launch the rescue. Upon arrival at the scene, the rescue team found André Meyendorff and his guide both dead. He died at the age of 24, having had time to publish at least five geological studies and also to participate in the geological survey of the In Salah and Kerzaz quadrangles at 1: 500,000 scale.

EUGENE MILOKHOV / Евгений Владимирович Милохов (* 1899, St. Petersburg, Russian Empire - † 1984, Grasse, France), geologist, Dr. Eugene Milokhov graduated from the Marine Corps and participated in the Civil War on the Black Sea. In 1923, shortly after the evacuation of the Russian fleet in Bizerte, he left for France. Eugene Milokhov (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014) studied at the Sorbonne in the Science Faculty, and then from 1928 to 1931, at the Strasbourg Geological Institute. For ten years he was engaged in oil exploration in Gabon. In 1947, he joined the Alsace Potash Mines as an engineer and head of the department of geology. Under the direction of V. Maïkovsky, he participated in the exploration for oil and potash. In 1952 he presented his Ph.D. thesis at Strasbourg University while working on potash deposits.

A.V. Monomakhoff was sent to Turkey, where he led a French coal company in Zonguldak. In the last 10 years of his life he directed several mining companies, including metal mines in Tunisia and Greece. He also was director of mines in the French Pyrenees.

CONSTANTINE MONOMAKHOFF / С. MONOMACK / Константин Петрович Мономахов (* 1897 Nikol'skoe village, Saratov province, Russian Empire - † after 1966), mining engineer. Constantine Monomakhoff, a graduated from the École Nationale des Mines de Paris, was an expert in the geology (stratigraphy, tectonics) of the Northern France and Algeria coalfields, and in coal and natural gas prospecting. He co-published on these topics with another Russian geologist émigré, Boris Ovodenko. In the 1960s he was director of the French Collieries' Geology Department. He participated with the BRGM in the exploration of Lons-le-Saunier coalfield, but in 1959 this deposit was deemed uneconomic. In 1957, he co-authored with BRGM geologists a paper about the Jura thrust on the Bresse plain, highlighted by boreholes in the coal basin.

VLADIMIR NESTEROFF / Владимир Дмитриевич Нестеров (* 1925?, Paris, France), marine geologist, sedimentologist, Doctor of Sciences, Vladimir Nesteroff, an assistant in the laboratory of Marine Geology at the Sorbonne, took part in the premier "Calypso" oceanographic ship expedition in the Mediterranean and Red Seas in 1951. The expedition was managed by the French explorer and oceanographer Jacques-Yves Cousteau, commander of the ship, who brought together an international team for this first venture. Nesteroff described the geological results of the expedition, including profiles from the Red Sea floor and margins, with its reefs, tectonics, sea level fluctuations, sedimentation and underwater erosion. In 1958, V. Nesteroff presented his doctoral thesis on the "Study of marine sediments in the Antibes area" at the Faculty of Natural Sciences, Paris University. He subsequently was employed at the "Dynamic Geology" Laboratory at Pierre and Marie Curie University in Paris and at the Brest Oceanographic Centre, managed by Paris University, notably studying saline sediments off the Moroccan coast. Vladimir Nesteroff is a specialist in Mediterranean sedimentation and tectonics (south-east France, Western Mediterranean, Alboran Sea, Sicily Neogene sediments). He was also involved in the geological aspects of underwater archaeological sites (1973) and in 1975, led an oceanographic expedition. He is the author or co-author of 14 scientific papers. Jean Ricour remembered him as a cheerful companion who loved diving and visiting shipwrecks.

VSEVOLOD OBOLENSKY / князь Всеволод Михайлович Оболенский (* 1914, St. Petersburg, Russian Empire - † 2001 Moscow, Russia)(Fig. 16), a mining engineer. His mother Glafira Nikitichna emigrated to Belgium with her young son Vsevolod, who graduated as mining engineer from the University of Louvain in Belgium (1937-1938). He spent about 30 years at the High Katanga Mining Union (UMHK) in the Belgian Congo, also a member of the Belgian Geological Society since 1938. In 1967, he became director of the UMHK, renamed GECAMINES, and developed the Higher Katanga mines (now Shaba). Three years later he was director of the Mining Union in Brussels and in 1980 a consulting engineer for the development of diamond mines in Africa. He participated in numerous international conferences on the exploration and exploitation of the ocean floor, taking part in expeditions to the Pacific to study the recovery of manganese nodules from the ocean floor. In 1986-1988 he was a professor at the École des Mines de Rabat (Morocco). Vsevolod authored numerous technical reports and scientific publications. In the United States he developed and patented a system for sampling metallic nodules on the sea floor. In 1990 he was invited by the USSR Ministry of Geology and became a regular consultant in Moscow and the North Caucasus. He died in Moscow in 2001. He was holder of the Order of King Leopold II of Belgium (1976).



Figure 16. Vsevolod Obolensky; *rulex.ru*.
Figura 16. Vsevolod Obolensky; *rulex.ru*.

BORIS OVODENKO / Борис Николаевич Оводенко (* 1898, Voronezh, Russian Empire - † 1976, Rabat, Morocco), engineering geologist, stratigrapher, micropaleontologist. After his evacuation to Africa at the end of the Civil War, he enrolled as a driver-mechanic in Tunisia. In 1927 he went to Lyon (France)

as an electrical mechanic in the company “Electro”. A graduate of the Polytechnic Institute of Grenoble (INPG) in Electrical Engineering (1932), he was hired in Jared (Morocco, south of Oujda, close to the Algerian border) as engineer in the Ougrée-Mari Hague Company. He pursued the research initiated by A. Brichant, J. Harroy and H. Castadot in complementing the J. Dewandre geological map with the correlation of coal seams. He was engaged in geological prospecting, mapping and stratigraphy, of the Carboniferous system in the southern Oujda area on the basis of goniatites and flora. He determined the Van Leckwijck microfossils collection, results to this day unfortunately unpublished. During the years 1938-1941, with Henry Termier and J. Agard he studied cassiterite veins and associated alluvial tin deposits. Having completed the geological study of the region’s Carboniferous rocks, he undertook the Moroccan coal synthesis with Geological Survey colleagues, in the light of the new requirements for raw materials. He developed a new principle and an operational control of mineral processing in the Jerad mines. B. Ovodenko was an expert in coal geology and Moroccan coalfields. As head of the Jerad coal mines, he spent over thirty years studying the basin, thus making great contributions to its geological knowledge and to the use of its coals. B. Ovodenko published extensively until 1976 (P. Morin, 1980b), notably with the émigré geologist C. Monomakhoff. NICOLAS OULIANOFF / Николай Алексеевич Ульянов (* 1881, St. Petersburg, Russian Empire - † 1977, Pully near Lausanne, Switzerland)(Fig. 17), geologist, geophysicist, mineralogist, mountaineer, Doctor, Professor. Nicolas Oulianoff, son of the revolutionary activists Alexis Oulianoff and Anastasia Venchikova, both teachers, followed his parents into exile to Siberia (Ayrton S., 1977; Tchoumatchenco P. *et al.*, 2014). At the end of their sentence, they returned to St. Petersburg where Nicolas entered the Technological Institute in 1898. Politically engaged, he was obliged to leave Russia in 1900 for Germany, where he enrolled at the Munich Polytechnic School. An active and under-resourced campaigner, he interrupted his studies doing odd jobs and then passed into clandestinity. In 1913 he moved to Lausanne (Switzerland) where he resumed his studies with Professor Maurice Lugeon. In 1917 he returned to revolutionary Russia, but fled again in 1919 to permanently settle in Switzerland (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014.). In 1920 he presented his thesis on the Massif de l’Arpille. He was offered a position as lecturer in mineralogy and petrography, acting Director of the Laboratory of Mineralogy and Petrology at Rumine (1920-1922). He was appointed

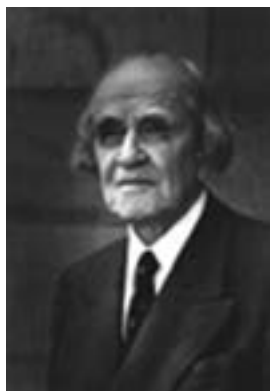


Figure 17. N. Oulianoff; photo M. Jaboyedoff.
Figura 17. N. Oulianoff; photo M. Jaboyedoff.

Director of the Laboratory of General and Applied Geophysics from its inception in 1938 until his retirement in 1951. Since 1945, he was also Professor of applied and general geophysics and topography. Upon his retirement, he set up a fund in his name to promote scientific trips for teachers and advanced students in mineralogy, geology and geophysics. Author of geological maps, including the 1:50000 scale Chamonix-Mont Blanc map for the Geological Map of France Project, he published on various subjects. Nicolas Oulianoff was in close correspondence with Vernadsky and other colleagues remaining in Russia. An active member of national and international scientific societies, including the Vaud Society of Natural Sciences, the Geological Society of America, the Société Géologique de France, etc... Nicolas Oulianoff also had an expertise in major geotechnical work, such as dams and tunnels. At the age of 92, he still was an active mountainer.

GEORGES PACHKOFF / Георгий Дмитриевич Пашков (* 1909, St. Petersburg, Russian Empire - † 1994, Paris, France), chemist, mineralogist, Dr. Georges Pachkoff and his mother left Russia in 1922 through Estonia, at the time an independent country. Three years later they settled in France. Georges Pachkoff graduated from the Paris National Chemistry School and the Faculty of Natural Sciences at the Sorbonne. In 1934 he presented his doctoral thesis in mineralogy, then worked as an engineer in the Loire department (France). During WW II he was captured by the Germans. On his release in 1945, he was employed at the CNRS Documentation Centre in Paris as a technical translator in German, English and Russian, as well as for private companies. He was editor of the French full version of the Soviet magazine "Radiochemistry", published by the CNRS for military and scientific purposes (Mnouchine L. *et al.*, 2008; Tchoumatchenco P.

et al., 2014). In 1934 he studied musical composition at the Paris Conservatory and was also professionally engaged in painting and ceramics, and later became interested in parapsychology.

BORIS PEREBASKIN / Борис Николаевич Перебаскин (* 1885, St. Petersburg, Russian Empire- † 1933, Strasbourg, France), engineering geologist and geophysicist. Victor Perebaskin's brother. During WW I and the Civil War he was commander of a minesweeper in the Baltic Fleet. He then emigrated with his wife to Yugoslavia (1921), and then to France, where he graduated in geophysics at Strasbourg University (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In 1931, with his brother Victor, he set up an oil exploration company. He was recipient of the Order of Academic Palms.

VICTOR PEREBASKIN / Виктор Николаевич Перебаскин (* 1894, St. Petersburg, Russian Empire - † 1976, Saint-Gaudens, France), geologist, micropaleontologist, Dr. Victor Perebaskin, Boris Perebaskin's younger brother, immigrated to France through Constantinople. In 1927, after graduating from the Strasbourg School of Natural Sciences (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014), Victor engaged in oil exploration in Sudan and France. In 1931, with his brother he participated in a privately owned oil exploration company. In 1932, he presented his doctoral thesis. Victor is recipient of the Order of Academic Palms.

ANATOL PETROV / Анатолий Евгеньевич Петров (* 1896, Warsaw, Russian Empire - † 1974 Tunisia), geologist. In 1921 he was evacuated to Bizerte and in 1922 moved to Tunisia and then to France. In 1928, he obtained a grant from the French Government and graduated from the Nancy School of Geological engineers (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014).

BENJAMIN POLIAKOFF / Вениамин Яковлевич Поляков (* 1881, Moscow, Russian Empire - † 1943, in Auschwitz, Poland)(fig. 38), geologist. Benjamin Polyakoff graduated from the Faculty of Geology at Moscow State University. In 1917, he was employed in a chemistry laboratory in Paris. In 1939, he enlisted in the French army (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014.), was captured and deported to Poland. He died, probably in 1943, in the Auschwitz concentration camp. His name appears on the camp's memorial.

VLADIMIR POSTRIGANEV / Владимир Георгиевич Постриганев (* 1875, Russian Empire - † 1954, New York, USA), mining engineer, metallurgist, Doctor, Professor of Industrial Ukrainian Academy. Vladimir Postriganev graduated from the St. Petersburg School of Mines in 1899 and pursued

his studies in Belgium, graduating in electrical engineering at the Liège Montefiore Institute. On his return to Russia he was appointed professor at the St. Petersburg Polytechnic Institute (1904-1912), also being a member of the Southern Russia Union of Mine workers. In the years 1919-1930 he was employed in the Urals and Ukraine steel mills. In 1940-1943 he taught at the Dnepropetrovsk Metallurgical Institute. Being in the German occupied territories, he took the opportunity to flee to the West in 1943 and to join his brother Leon (* 1877 - † 1952) in France, who had emigrated after the Civil War. Vladimir became professor, then Dean of the Faculty of Engineering at the Russian Superior Technical University in Paris (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). He taught geology and mineralogy, was a member of the Russian Academic Group, delivered lectures on the Russian metallurgical industry at the Union of Russian civil engineers. After moving to New York in 1952, he participated in studies on the research programme of the Soviet steel industry.

NICOLAS REFORMATSKY / Николай Павлович Реформатский (* 1901, Kostroma, Russian Empire - † after 1953, South America), geologist, Ph.D., Professor. Nicolas Reformatsky immigrated to France after the October Revolution, graduating from the Paris Russian School. He studied at the Faculty of Sciences at Strasbourg and Paris Universities (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014.), graduating as a geologist in 1925. From 1928 to 1935, he studied laterites and iron deposits in Niger, and was employed at the Strasbourg Mining Institute. Most of his academic career was spent in South America. He moved to Ecuador as professor at the School of Mines and Geology at Cuenca University and a member of the Geological Survey. He undertook a stratigraphic and paleontological survey of the country, also managing the budgetary part. He is author of numerous publications on the geology of Ecuador.

MICHEL RODIN / Михаил Михайлович Родин (* 1899, Philonovskaya, near the city of Novoannensk, Russian Empire - † 1929, Leopoldville, Congo)(Fig. 18), geologist. Michel Rodin, born a Cossack, was a marine guard at Sevastopol in 1919. He subsequently was evacuated by the Russian navy to Bizerte. In 1923, he earned a scholarship and graduated as an engineering geologist at Besançon University (Tchoumatchenco P. *et al.*, 2014). He went to Equatorial Africa, being employed in various French and Belgian colonies. He died prematurely in the Belgian Congo (now Zaïre) at age 30 (according to another source, he would have died earlier, in 1926).



Figure 18. M. Rodin; svvmin.ru.

Figura 18. M. Rodin; svvmin.ru.

VIACHESLAV ROMANOVSKY / Вячеслав Петрович Романовский (* 1884 to 1886, St. Petersburg, Russian Empire - † 1964, Bizerte, Tunisia), topographer. In Russia, Viacheslav Romanovsky was a Marine Corps officer specialized in navigation. He was evacuated to Bizerte, and until 1922, living with his family in the Nador camp. Later he found employment as a surveyor in the Tunis public services. In 1935 he received the Tunis Medal of Honor (Nichan Iftikhar).

IGOR ROST / Игорь Алексеевич Рост (Росчупкин, Росщупкин) (* 1902, Russian Empire - † after 1977, France), geologist. Igor Rost spent his exilé life in Paris and its suburbs. The details of his career are unfortunately not known.

VLADIMIR RUSSANOV / Владимир Александрович Русанов (* 1875, Orel, Russian Empire - † 1913, Kara Sea)(fig. 19), Arctic explorer, geologist and paleontologist. Vladimir Rusanov studied at the seminary, later joining the Faculty of Natural Sciences at Kiev University. Being caught in a student riot, he was deported to Ust-Sysolsk in the Komi province (now Syktyvkar). Rusanov made his self-education in jail. In the fall of 1903, he immigrated to Paris with his wife (Tchoumatchenco P. *et al.*, 2014) and enrolled at the Sorbonne in the Faculty of Natural Sciences, graduating with honors in 1907. Vladimir studied extinct volcanoes in France, witnessed the eruption of Vesuvius in 1906 and presented his Doctoral thesis on the geology of the then unexplored Novaya Zemlya, with material collected during his exile in Ust-Sysolsk. In spring 1908, a French expedition was organized to Novaya Zemlya. There were many candidates among geologists, but Rusanov was unanimously chosen. He discovered, amongst other things, a hitherto unknown Silurian fauna he described in an article "On the Silurian of Novaya



Figure 19. VI. Russanov; Moscou-Leningrad, 1945.
Figura 19. VI. Russanov; Moscou-Leningrad, 1945.

Zemlya," in which he discussed the close relationship between the Arctic Sea and an upper Silurian ocean in central Europe, together with the migration routes of Devonian fauna. The following expedition in Novaya Zemlya occurred in 1909 and dealt with metamorphic terrains (marble, slate, diabase, and coal). In 1912, Rusanov, in the company of his new bride, the geologist and physician Juliette Jean, he took part in an expedition to Spitsbergen, discovering a rich coal deposit on the West coast. In 1913, the schooner "Hercules" conveying Vladimir Rusanov's expedition sunk in unknown circumstances around the Cape Jelania, in the Northern island of Novaya Zemlya, and only in 1934 some objects belonging to expedition members were discovered in the Taimyr islands. His name was given to a bay and peninsula in Novaya Zemlya, to a glacier in Severnaya Zemlya (Northern island of Novaya Zemlya) and to a mountain in Antarctica.

IVAN SAGATSKY / Иван Иванович Сагатский (* 1901/1902, Novo-Nicolaevskaya, the Don, Russian Empire - † 1981/1982, Paris, France), geologist, Doctor. Both Ivan Sagatsky and his father fought during the Civil War in the Don Cossack regiment under Colonel Semiletov. At the war's end, they were evacuated to Lemnos island, transferred to Yugoslavia and then to France. Ivan graduated from Paris University and the Nancy School of Engineering Geology. In 1928, he was employed in private companies, and then in the French Geological Survey, and was engaged until 1941 in prospecting and mineral exploration in French West Africa (AOF), Indochina, and New Hebrides (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). After presenting his doctoral thesis, he taught at Nancy University, and then for 16 years, directed mineral exploration and geological mapping missions in Africa (Cameroon, Senegal, and Sudan),

in Indochina and in some European countries. He published on microscopic gold search, on the making of geographical and geological maps, on mining, irrigation, roads and railways building.

VLADIMIR SCHEPINSKY / Владимир Александрович Щепинский (* 1898, Warsaw, Poland, Russian Empire - † 1975, Saint-Dizier, Haute-Marne, France). Geologist of oil and gas, Doctor of Sciences. V. Schepinsky was evacuated by the Russian squadron to Bizerte (Tunisia). Upon arriving in France in 1924, V. Schepinsky graduated in geological engineering at the Sorbonne (Paris), specializing in an oil and gas, and at the Strasbourg Petroleum School. He was employed in Belgium, Belgian Congo, and Tunisia (1938), entering the Resistance during WW II. After WW II he entered the CNRS in France, working in Tunisia, Algeria, Morocco, Belgium, and was appointed Cultural Attaché in Ankara. He was one of the main drafters of the 1950 geological map of France and director of the Saint-Dizier museum. In 1962 he presented his PhD thesis. His scientific work is crowned by the Order of Academic Palms. He was extremely strict in his work and in his relationships with colleagues.

SERGE SCHERBATSKOY / Сергей Александрович Щербатской (* 1908, Buyuk Dere, near Constantinople, Turkey - † 2002, Paris, France)(Fig. 20), geophysicist and petroleum geologist, Dr. Serge Scherbatskoy was very talented, being fluent in languages (French, English, German and Russian), and the holder of a Physics doctorate at the Sorbonne (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In 1929, just months before the great depression, Serge Scherbatskoy moved to the United States. There he patented more than 200 technical inventions for oil exploration, production, and the development of geophysics in boreholes. Serge Scherbatskoy died at the age of 94.



Figure 20. S. Scherbatskoy; invention.smithsonian.org.
Figura 20. S. Scherbatskoy; invention.smithsonian.org.

ALEXANDER SCRIBINE / Александр С. Скрябин (* 1921, Szigetvar, Hungary - † 2009, Paris, France), mineralogist and translator. Alexander was born in Hungary and reached France with his parents in 1924. After his high school studies in France, he entered the Sorbonne, graduating in 1943 as a geologist (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In 1945 he was technical translator for the mineral industry. In 1952 he directed the glass laboratory of the "Saint-Denis Glass-Factories" near Paris, and three years later was employed in mineral concentration for French companies.

PIERRE SEMENOFF-TIAN-CHANSKY / Петр Николаевич Семёнов-Тян-Шанский (* 1925, Versailles, France - † 2003, Paris, France)(Fig. 21), paleontologist, Doctor of Sciences. His father was involved in WW I and the Civil War on the Northern front, and later went into exile to England, where his wife studied at Oxford. He moved to France, engaging in farming, and winning a first prize at the Senancour pig contest. Peter presented his doctoral thesis in 1969 at the University of Paris on the Sahara Carboniferous corals. A specialist in Paleozoic tetracorallians and sponges, he had a lifelong collaboration with his master James Alloiteau (1890-1969). A CNRS researcher, he was based in the Palaeontology Laboratory at the Paris Museum of Natural History. He participated in expeditions in Tian Shan and Lake Issyk-Kul, establishing links with specialists in the Soviet Union, and introducing his Western colleagues to their abundant literature. P. Semenov-Tian-Shansky retired in 1990, still actively contributing to the determination of Paleozoic corals collected by colleagues in the Sahara. He is the author of numerous scientific papers on Devonian and Carboniferous corals, contributing to the knowledge of their taxonomy, biostratigraphy and paleogeography. He wholeheartedly invested himself in the design of the "Saharan Room" at the Sahara Museum.



Figure 21. P. Semenov-Tian-Chansky; kse.wnoz.us.edu.pl.
Figura 21. P. Semenov-Tian-Chansky; kse.wnoz.us.edu.pl.

EUGENE STALINSKY / Евгений Евсеевич Сталинский (* 1905, Russian Empire - † 1995, Neuilly, near Paris, France), a mining engineer. Eugene Stalinsky arrived with his parents in Paris at the age of 14. In 1934 he graduated from the Paris School of Mines (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). In 1934 - 1940 he was employed in the mining industry, including the "Mining Company" in France and North Africa, engaged in developing mining methods in quarries and mines, improving work organization.

ALEXANDER SOULATSKY / Александр Александрович Сулацкий (* 1909, Novocherkassk, Russian Empire - † 1994, Paris, France), geologist. Alexander Soulatsky, a Cossack native, emigrated with his parents to France, graduating from the Strasbourg Petroleum Institute. He held senior and leadership positions in several mining companies in Western and Equatorial Africa. In 1953 he was engaged in the geological exploration of Senegal (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014).

PIERRE TARANOVSKY / Петр Викторович Тарановский (* 1917, Macedonia - † 2001, France), petroleum engineer. Pierre Taranovsky was born December 5, 1917, the day of the signing of the Russian-German Brest-Litovsk peace treaty. He participated in WW II in the French army. After the war, he made a successful career in the oil business in Africa (Tchoumatchenco P. *et al.*, 2014), and settled in Paris in 1956.

KARL (Kalman) TATARSKY / CARL (Kalman) TATAR / Карл (Кальман) Наумович Татарский (* 1888, St. Petersburg, Russian Empire - † 1944, Paris, France), a mining engineer and geologist. Karl Tatar graduated from the St. Petersburg Mining Institute. After the revolution, he emigrated to France and settled in Clichy, near Paris, employed as a mining engineer (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014.).

HAROUN TAZIEFF / Харун Тазиев / (*1914, Warsaw, Russian Empire - † 1998, Paris, France)(Fig. 22), an agricultural engineer, geologist, mining engineer, volcanologist, moviemaker, writer and politician. Haroun emigrated to Belgium with his mother in 1921, and obtained Belgian nationality. After high school, he graduated (1938) in agricultural engineering from the Gembloux Faculty of Agricultural Sciences (Belgium,). In German-occupied Belgium he joined the Resistance, obtaining at the end of the war a diploma in engineering and mining geology from Liège University (1944). In the course of his scientific and political career, Haroun Tazieff held the following positions and responsibilities: assistant in Entomology (Belgium); assistant in Mineralogy (Professor E.M. Danaeyer) at Brussels University in 1944; assistant

in applied Geology and Geophysics (Professor I. Magnée) at Brussels University in 1945; Engineer in the Katanga tin mines (former Belgian Congo) in 1945; geologist at the Belgian Congo Geological Survey. The eruption of Kituro volcano that he followed in 1948 determined his passion for volcanology, and he launched into the "live" study of eruptions and their prediction, and into volcanology vulgarization; assistant again in applied Geology and Geophysics at Brussels University (1949-1950). In 1953, H. Tazieff moved to France: lecturer in Volcanology at the Brussels Free University (1957-1960), establishing and managing the National Centre for Volcanology; lecturer at the Faculty of Paris in 1958, he was appointed Director of the Laboratory of Volcanology at the Paris Institute of Earth Physics. He devoted himself to a long series of volcanological expeditions (Ten Thousand Smokes Valley in Alaska, Afar depression, Nyiragongo, Erta Ale, Mount Erebus, and also Etna, Stromboli, Faial, La Soufrière in Guadeloupe, Merapi, etc.); UNESCO expert in Chile (1961), Costa Rica (1964), Indonesia (1964-1965) and Iceland (1973); lecturer in volcanology at Paris-Sud 11 - Orsay University (1965); lecturer in volcanology at Paris VI University (1966); research Fellow at the French National Centre for Scientific Research (CNRS) in 1967; Senior Fellow at CNRS (1969); CNRS research Director at the volcanology laboratory in the Gif-sur-Yvette Centre for low radioactivity, notably specialized in eruptive gases (1972); Scientific Board Chairman of the International Volcanological Research Institute (IIRV) (Rome, Catania, Pisa); Head of the volcanology department at the Paris Institute of Earth Physics, monitoring the Montagne Pelée (Martinique) and La Soufrière (Guadeloupe) (1973 - 1976); State Secretary for the prevention of natural disasters (1981); Special Adviser to the Research and Industry Ministry (1981); Co-editor with P. Chartier of the report "Mastering



Figure 22. Haroun Tazieff; www.babelio.com.
Figura 22. Haroun Tazieff; www.babelio.com.

energy" for the Ministry of Research and Industry (1981). This report was, for a great part, prepared by his collaborator, Jacques Varet, a geothermy specialist. This report resulted in the founding of the French Agency for Energy Management (AFME) in 1982. H. Tazieff was author / co-author of about 150 scientific papers published between 1949 and 1998, more than 40 documentary films, 30 books, etc.

NB: This chapter is inspired by Wikipedia (fr.wikipedia.org/wiki/Haroun_Tazieff).

PETER TCHIKHATCHEFF / Петр Александрович Чихачёв (* 1808, Gatchina near St. Petersburg, Russian Empire - † 1890, Florence, Italy)(Fig. 23), geologist, geographer, traveller, honorary member of the St. Petersburg Academy of Sciences, older brother of Plato. Being gifted with an extensive knowledge of languages and following the Czar's personal instruction, Peter graduated from the Diplomats' School and attended classes at the St. Petersburg Faculty of Law, while employed by the State. In the years 1829 - 1830, he also studied geology in Germany and France. After graduation, he was appointed translator for the Asian Department at the Ministry of Foreign Affairs, responsible not only for the remote regions of Russia, but also for the Turkey, Middle East, Egypt, and North Africa. Retiring in 1838 as a diplomat, he participated in the Khiva geological expedition (1939), later moving to Italy. On the recommendation of the German scientist Alexander von Humboldt, Peter Tchikhatcheff engaged in the geological survey of the Apennine Peninsula, studying Vesuvius, and drawing the first geological map of the Apennines in a couple of years. From that time, he became, after his own words, a "floating immigrant", working in Russia and abroad, while having permanent residence abroad. In 1841, he published a geological description of Monte Gargano in Southern Italy and the geological map of the Nice area (France). In 1842, he was sent to the Altai mines by the Corps of Russian Engineers to survey the topography and geology of the China borderlands, which were at the time largely free from human interference. There he discovered one of the largest coal fields in the world, the "Kuznetsky Basin" or "Kuzbass". Returning to France in 1845, he published a geological description of the Altai. In 1856, as a consequence from his harsh criticism of Tsar Nicolas I regime, his publications were banned from Russia until 1876. He led scientific expeditions in Armenia, Kurdistan, Eastern Thrace (Turkey), North Africa and Minor Asia. These expeditions enabled him to give a complete geographical and geological description of Asia Minor (1853-1869) and to collect rich geological, paleontological, botanical, zoological and archaeological material for hundreds of scientific



Figure 23. Peter Tchikhatcheff; litmir.net.
Figura 23. Peter Tchikhatcheff; litmir.net.



Figure 24. Plato Tchikhatchev; liveinternet.ru.
Figura 24. Plato Tchikhatchev; liveinternet.ru.

articles totaling over 10 000 pages. In the 1850s, Peter Tchikhatcheff also made expeditions to eastern Asia (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014). One of the great Altai mountain ranges is called the Tchikhatcheff Ridge. His name is also given to a bay in the Sea of Japan. He lived mainly in France, publishing mostly in German and French, and died in Italy.

PLATO TCHIKHATCHEFF/ Платон Александрович Чихачёв (* 1812, Gatchina near St. Petersburg, Russian Empire - † 1892, Versailles, France)(Fig. 24), Russian naturalist, traveller, Peter Tchikhatcheff's younger brother. Plato Tchikhatcheff, like his brother Peter, received an excellent education. On their father's death in 1827, the brothers moved to St. Petersburg. Over the next four years, Plato was involved in military operations in the Russo-Polish and Russo-Turkish wars. A fearless man, he passionately loved his country. Aged 43, he was among the ranks of the Sevastopol defenders during the Crimean War. Plato Tchikhatcheff participated in expeditions to the Americas, Europe, Asia, Africa, wrote several articles. After reading von Humboldt's book in 1835, he made a trans-Americas three-year journey from Canada to Tierra del Fuego. He also visited Spain, Algeria, and Central Asia. Plato was member of Academies of Sciences and Geographical Societies of many countries. He also left traces in the history of mountaineering, with the first ascent of the Pic Aneto (3404 m), the Pyrenees culminating summit (Spain, July 18, 1842), several climbs in the Andes, including Pichincha (4787 m), also publishing his climbing memories. In 1840, he wrote the book: "On the lakes with the United States Shipping Company", and "The Buenos Aires Pampa", and 1889 "California and the Ussuri region." Plato Tchikhatcheff was one of the main founders of the Russian Geographical Society

and an honorary member of the St. Petersburg Mineralogical Society (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014, Tsiboulsky V. V., 1988). Unfortunately, most of his manuscripts, especially about the Americas, were lost. In 1856, Plato married and for family and health reasons thereafter lived mainly abroad, and died out of Russia.

RAPHAEL TRACHTENBERG / Рафаил Михайлович Трахтенберг (* 1895, Kharkov, Russian Empire - † 1966, Belgium), director of mines. He served as captain in the Russian army, and having fled Russia after the revolution, was director of the "Kasongo Mining Society" extracting gold and cassiterite in Kindou (Belgian Congo). Raphael also was President of the Belgian Chamber of Commerce in Africa (1937). In 1940, unlike many former compatriots, he obtained Belgian citizenship. At the beginning of WW II, he was mobilized as an artillery lieutenant in the "Motorized Rifle Group", based in Leopoldville, engaged with its accountants and administration.

XENIA de TSYTOVITCH / Ксения Александровна Цытович / (* 1888, Kiev, Russian Empire - †1958, USSR). Biostratigrapher, paleontologist, Doctor of Sciences. Xenia de Tsytovitch graduated from Geneva University in Natural Sciences (1909). She studied the Jura High Chain Jurassic series (including their ammonites) close to the France-Geneva border, providing a detailed map of the Champfromier mountainous area together with detailed cross sections (1910). In 1911, she presented her doctoral thesis on the Callovian *Hecticoceras* in the Chésery area. In 1919, she returned to Ukraine, joining the Geology Committee in 1924.

NICOLAS VARLAMOFF / Николай Иванович Варламов / (* 1910, Don Region, Russian Empire - † 1976, New York, USA), mineralogist. Nicolas Varlamoff belonged to a Cossack family living between the Volga

and the Don (Morin P. 1980b; Alexandrov E.A., 2005; Tchoumatchenco et al. 2014). When he was ten years of age, his parents fled the Bolsheviks on horseback, taking him through the Ukrainian border. They settled in Belgium around 1923. In 1934, Vladimir obtained a degree in mining engineering at Liège University and two years later, a geology degree. He began his career in Belgium, in an extraction factory for building materials. From 1934 to 1960 he was a prospector in Africa: Belgian Congo (later Zaire), Rwanda, Burundi, Madagascar and other African countries. He searched for rare metals, diamonds, and coal, limestone and cement materials. In 1947 De Dycker, while studying specimens collected by Varlamoff, discovered a new mineral that he called "varlamoffite" (sometimes called "varlamovite"). [Iron and tin hydroxide (Sn, Fe) (O, OH) 2, orange to red yellow color, observable in oxidized stannite (iron sulfide, copper and tin, traces of other elements) and cassiterite (tin oxide) veins]. In 1960, Nicolas Varlamoff and his family had to flee Congo, due to decolonization troubles, and moved to Chile for two years. In the period 1964 - 1975 he was an adviser to the United Nations in New York for mineral exploration in Africa and Madagascar. In 1971-1973 he described pegmatites from Central and Western Africa and their relationship with the granites, further studying the relationship between mineralization and the African platform faulting. He taught at Queens College in New York and published 43 articles, mainly about rare metal deposits. In the course of his life, Varlamoff was chief engineer and director of mines, speaking four languages, including Swahili. He was a member of the Royal Academy of Overseas Sciences and of seven geological and engineering societies.

NICOLAS VARTAPETYANS / Николай (Николоз) Михайлович Вартапетянс (* 1919, Essentuki, Russian Empire - † 1999, France), engineer, cartographer, topographer. Nicolas Vartapetyans lived in exile near Paris (1971- 1994). He was a surveyor engineer in an Iranian oil company and a member of the Union of Russian engineers in France.

VLADIMIR VERNADSKY / Владимир Иванович Вернадский (* 1863, St. Petersburg, Russian Empire - † 1945, Moscow, Russia)(Fig. 25), mineralogist, geochemist, philosopher, Dr. of Sciences, Professor, Academician. Vladimir I. Vernadsky is one of the most famous Russian scientists (Deicha G., 1989; Goumilevsky L., 1988; Levit G.S., 2001; Mnouchine L. et al. 2008; Tchoumatchenco P. et al. 2014). Founder of the science of biogeochemistry, he made immeasurable contributions to geochemistry, mineralogy and crystallography and had to spend part of his life in exile. He graduated in natural sciences, physics

and mathematics at St. Petersburg University. In 1888 he was sent to Europe, to study in Munich at Paul Groth's, a leading crystallographer. In Paris, he graduated from the École des Mines de Paris, studying with Henri-Louis Le Chatelier. He also attended the courses of the mineralogist Ferdinand Fouquet at the College de France, at the same time studying Greek and philosophy. In 1890 he was appointed mineralogy professor at Moscow University, and in 1897 obtained a Ph. D. at St. Petersburg University. In the years 1898 to 1911 he was teaching at Moscow University, a year later being admitted at the St. Petersburg Academy of Sciences. His wanderings began in November 1917, when he signed the proclamation by the Provisional Government treating the then clandestine Bolsheviks as terrorists. He had to flee to the Ukraine where he participated in the foundation of the Ukraine Academy of Sciences of which he was first president. In 1920 he was Rector of Tauride University in Simferopol. Vernadsky was invited to Paris University in the early summer of 1922 and moved with his wife and daughter via Prague. He taught as a visiting professor at the Sorbonne, lecturing on geochemistry and biogeochemistry, and also at the Natural History Museum and the Maria Sklodowska-Curie Institute. In Paris, he also met the famous theologian, philosopher and paleontologist Pierre Teilhard de Chardin and heard his views on the history of the world. In 1923-24, he published in Paris his most important work: the first volume of the "History of the minerals of the crust" (1923) and "Geochemistry". Vernadsky did for space what Darwin did for time. In March 1926, at the instigation of S.F. Oldenburg, the president of the Russian Academy of Sciences, V.V. Vernadsky returned to Russia and settled down to work at the Leningrad Academy of Sciences. He pursued his scientific work, which, in his own words, "Could save Russia, regardless of the political system."



Figure 25. Vladimir Vernadsky; photo P.Tchoumatchenco.
Figura 25. Vladimir Vernadsky; foto P.Tchoumatchenco.

PAUL YUSHCHENKO / Павел Васильевич Ющенко (* 1895, Aksay, Don area, Russian Empire- † 1980, Strasbourg, France), geologist. Paul Yushchenko graduated from the Don seminary. He however decided to devote his life not to religion but to science, studying physics and mathematics at the Don University in Rostov-on-Don, emigrating abroad at the end of the Civil War, and moved to France in 1928. Recipient of a scholarship grant, he graduated from the École Nationale des Arts et Métiers in Paris and from the Geology Department at Strasbourg University. He specialized in petrography, collecting a priceless collection of specimens. He later prepared thin mineral sections at BRGG (later BRGM) (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014).

ROMAN ZVEREV / Роман Вениаминович Зверев (* 1900, St. Petersburg, Russian Empire † 1954, Paris, France), geologist. Roman Zverev was studying at the Polytechnic Institute of St. Petersburg, when his studies were interrupted by the Civil War. He enlisted in the White Navy on the Southern Front, and was evacuated to Bizerte in 1921, graduating from the Marine Corps in 1922. He went to Paris in 1922, and was engaged in the study of natural sciences and mathematics at the Sorbonne, and then graduated from the Nancy School of Mines, earning his living as an accountant. After WW II, he went as assistant to M.M. Ermakoff, as chief engineer at the Moroccan Office of liquid fuels (Mnouchine L. *et al.*, 2008; Tchoumatchenco P. *et al.*, 2014).

This paper does not include the biographies of the still-living, Russian-origin geologists belonging to the second generation of emigrants (born outside of Russia or the USSR) who worked temporarily or all their life in the Francophone countries, such as: Jacques Marie Bardinteff (volcanologist), Svetoslav Docoutchaev (geologist), Michel Jaboyedoff (geologist, geophysician), Jean Kovalevsky (cosmo-geologist), Anne Marie Karpoff (mineralogist), Anatoly Legchenko (geophysician), Nicolas Rehbinder (geophysician, orthodox priest), Alexandre Rimsky (mineralogist, cristallographer), Sir Patrick Alexander d'Estoteville Skipwith (marine geologist), Michel Slavinsky (engineer geologist), Jean Leon Syrota (mining engineer), Pierre Tchahotine (geophysician), Platon Tchoumatchenco (stratigrapher, palaeontologist), Michel Wiazemsky (geologist, cartographer).

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