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# History of Geology • Geologijos istorija • История геологии

# Development of geological studies in Lithuania: R. Symonowicz's mineralogical travel

## **Algimantas Grigelis**

Grigelis, A. Development of geological studies in Lithuania: R. Symonowicz's mineralogical travel. *Geologija*. Vilnius. 2007. No. 58. P. 49–55. ISSN 1392-110X.

Roman Symonowicz (1763–1813), the first mineralogy lecturer and organiser of Mineralogy Department at Vilnius Imperial University, in summer 1803 was sent by the Vilnius University to 'mineralogical' travel to Transylvania, Hungary and Poland. Since September 1803, Roman Symonowicz started lecturing mineralogy at the Vilnius University. In 1804, he moved away for one year to Freiberg, to Professor A. G. Werner to study mineralogy and geology. In 1806, R. Symonowicz published the first mineralogy handbook in Polish and compiled the first classification of minerals. R. Symonowicz's fame earned by his 'mineralogical' travel and scientific achievements allow calling him the pioneer of geological sciences in Lithuania.

Key words: history of sciences, geology, mineralogy, Vilnius University, Roman Symonowicz, mineralogical travels

Received 25 February 2007, accepted 26 March 2007.

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## INTRODUCTION

The turn of the 18th and 19th centuries was time of reforms in the Academia et Universitas Vilnensis and the Lithuanian Main School. In 1803, Imperatoria Universitas Vilnensis was established, and emphasis on the mathematical and natural sciences increased. The self-dependent Mineralogy Department was founded in 1803, and mineralogy discipline started to be lectured by adjunct [assistant professor – A. G.], mineralogist Roman Symonowicz. Theoretical ideas of Vilnius professors were chiefly based on those of A. G. Werner, Freiberg *Bergakademie* (Grigelis, 2006). At the beginning of the 19th century geological research tended to encourage prospecting for useful minerals as sources of salt, coal, gypsum, and iron ore deposits in this area.

## THE FIRST LECTURER ON MINERALOGY

Roman Symonowicz, a disciple of eminent Abraham Gottlob Werner in Freiberg *Bergakademie*, Saxony was the first to lecture on mineralogy and to organiser the Mineralogy Department at Vilnius Imperial University. Roman Symonowicz (1763–1813) was born in Vilnius to a nobleman's family<sup>1</sup>. He got his education in Vilnius Teachers Seminary. On graduating from the Lithuanian Main School, he got a degree of doctor of philosophy and medicine. In 1797 he became a vice-professor of anatomy. Four years later, in 1801 R. Symonowicz moved away for one year to Vienna to study medicine at famous Johan Peter Frank's school. There Symonowicz took keen interest in minerals and, after some doubts he made a link to mineralogy. Mineralogy was a popular discipline at that time. Therefore, his parent University needed a well-educated mineralogist and accepted his choice.

To increase a practical knowledge, in summer 1803 Symonowicz was sent by the University on a 'mineralogical' travel to Transylvania, Hungary and Poland with the instruction [...] to collect minerals that enriched mineralogy in the last twenty years (Grigelis, 2005). He visited the Szczawnica and Bystrica ore deposits, the Kremnitz and Hronitz mints, and the Wieliczka salt-mines (Fig. 1). Since 1 September 1803, adjunct Symonowicz was appointed to lecture on mineralogy at the Vilnius University. In 1804, he went for one year to Freiberg<sup>2</sup> to improve his mineralogical and geological knowledge at Professor A. G. Werner's school (Wójcik, 1972). In 1806, R. Symonowicz published the first manual of mineralogy in Polish (Fig. 2) and compiled the first classification of minerals (Bogatko, 1815). Symonowicz died in Vilnius on 29 January 1813.

<sup>&</sup>lt;sup>1</sup> Department of manuscripts, Library of Vilnius University, VUB RS, F2-KC3.

<sup>&</sup>lt;sup>2</sup> Ibid, VUB RS, F2-DC182b.



Fig. 1. Itinerary of R. Symonowicz's mineralogical travels; present Slovakia [source: www.ziarnadhronom.sk]

1 pav. R. Simonavičiaus mineraloginių kelionių maršrutas, dabartinė Slovakija

Roman Symonowicz's report about his 'mineralogical' travel, submitted to the University Council published for the first time in Lithuanian by author (Grigelis, 2005), seems to be an eminent document **written over two hundred years ago.** It evidences his broad sophistication and scientific intelligence. Moreover, it reports on specific features of metal deposits and stone-salt exploration in Central European deposits, demonstrating scientific circumstances and the state-of-art in teaching mineralogy and mineralogical researches. R. Symonowicz's fame earned by his 'mineralogical' travel and scientific achievements allow calling him the pioneer of geological sciences in Lithuania (Grigelis, 1981).

### Roman Symonowicz's Report to the Vilnius Imperial University Council on His Foreign Trip in 1803<sup>3</sup>

I, the undersigned, was sent by the University to make a mineralogy trip to Hungary and Transylvania<sup>4</sup>, and now I present a report about the localities I have visited. I departed from Vilnius at the end of June, according to our calendar, and due to slender means – eight hundred roubles – given to me by the University, I couldn't post but [travelled] with a coachman. In early August I reached Vienna, and till I was given the necessary passports, three weeks had passed. In late August I departed for Hungary, however, the last winter that had come too early to the mountains covered them on September 14, therefore it was difficult to reach the mountains to do geognostic observations. In spite of all this, I was in Szczawnica<sup>5</sup> where I visited four mines: Paczerstolnie with its vein formed mainly of Zinopel<sup>6</sup>, Zygmunt's mine, Stephen's mine

- <sup>5</sup> Orig. Schemnitz (pol. Szczawnica), present Banská Štiavnica, Slovakia.
- <sup>6</sup>Orig. *Zinopel* most probably "cinnabar", mercury ore.

O STANIÉ DZISIEYSZYM MINERALOGII PRZEZ ROMANA SYMONOWICZA 363 FILOZOFII I MEDYCYNY DORTORA IMPERATORSKIEGO WILEN. UNIWERSYTETU. LN T R ADEM | DRUK 1806.

Fig. 2. Title page of R. Symonowicz's manual "O stanie dzisiejszym mineralogii" (1806)

2 pav. R. Simonavičiaus vadovėlio "Dabartinė mineralogijos būklė" titulinis puslapis

and Maximilian's mine with its vein formed of quartz, field spar and white clay, but earlier – cinnabar.

I looked over the shop, where various silver and gold ores<sup>7</sup> are grinded, washed and processed into schlich [heavy concentrate], where gold by means of washing is separated from lead schlich, and metallurgy furnaces, i. e. the furnaces where the ores are melted. In Kremnitz I looked over all metallurgy furnaces, smelting furnaces, furnaces and apparatuses, where nitric acid is obtained by distillation, where quartering, granulation and separation of the residual gold from silver takes place; I looked over the shop of silver and gold ore ragging, washing and processing into schlich, all mint shops and equipment and came around the Maria Hilf mine, where beside silver and gold ores, grey antimonite crystallised into prisms and long needles is found. I was in Bystrzyca<sup>8</sup>, where I looked over metallurgy furnaces and smelting furnaces. I was in Panska Dolina<sup>9</sup>, four hours from

 <sup>&</sup>lt;sup>3</sup> Ibid, VUB RS, F 2, KC 337, l. 1–5, 10. Translation from Polish.
<sup>4</sup> Orig, *Ziemi Siedmiogrodzkiej*.

<sup>&</sup>lt;sup>7</sup> Orig. *minery* – ores.

<sup>&</sup>lt;sup>8</sup> Orig. Nesohl [Neusohl], present – Banská Bystrica, Slovakia.

<sup>&</sup>lt;sup>9</sup> Orig. Herngrund, present Špania Dolina, Slovakia.

Bystrzyca, where I looked over a copper ore mine notable for groundwater cementing by copper salt and cobalt salt, and most famous by its immeasurable length under the land surface. In Tajow, two hours from Bystrzyca, I looked over the liquation furnaces, i. e. furnaces in which silver is separated from copper by means of lead, and smelting furnaces. No wonder that so many metallurgy and smelting furnaces are located near the Hungarian silver and gold mines, because soon after the death of Born<sup>10</sup>, his method of silver and gold separation from the ore by means of amalgamation was applied there. Bosses of the furnaces told me that, using amalgamation, much gold is lost, but it is hard to swallow this. During my visit to Bystrzyca, I looked over the mint in which 300 hundredweights of copper coins are minted per day and from which after the final marking they are sent to the Kremnitz mint<sup>11</sup>; I was in Hronitz<sup>12</sup>, a locality 12 hours north of Bystrzyca towards the Carpathians, notable for furnaces and iron smithies belonging to royal treasure and very perfected. Two of these furnaces are 28 feet high, where mineras or iron ores, i. e. clayey common iron ore, ragged brown iron ore, brown hematite iron ore, common magnesium iron and spar iron ore are melted. The raw material that is produced in the smithies in the same way as the material from four other mineras is processed into band iron. All iron machinery used for various purposes in Schemnitz, Kremnitz and Bystrzyca mines, and all equipment in Kremnitz and Vienna mints are made in Hronitz smithies.

#### [.....]

I made three visits to the famous salt mine in Wieliczka, looked over the sulphur mine and its smelting in Swoszowyce, three quarter miles from Krakow on the right side of the road going to Wieliczka. In Vilnius I was engaged to make a detailed description of the Wieliczka salt-mine. In order to find out what was written by others, I had to search for descriptions given in many books, to read many geognostics, which had given their theories about natural formation of white salt on the Earth. I was surprised when I was having out only with Guettard<sup>13</sup> and Towson<sup>14</sup> who presented a right but not complete description of the Wieliczka salt-mine. Many used to write about rock salt and present an example from Wieliczka salt, although they hadn't seen it ever, including French Mister Hassenfratz<sup>15</sup>. This work took much of my time and dragged out completing description of the Wieliczka salt-mine, best known by me, especially because due to lecturing about mineralogy I had to spare some time to write a sextern<sup>16</sup> for students (I shall present this sextern revised several times and properly prepared for publication later)<sup>17</sup>.

Being short of money and, hence, due to a short duration of my mineralogical trip, I could not fully fulfil the instruction sent to me by the Curator of HG Duke and by the University<sup>18</sup>. It's not so difficult to describe which ores compose an ore field, and such a description wouldn't be very useful, but the description of mountains, rocks and ore veins constituting them with all geognostic circumstances, to learn wether these thick veins in Schemnitz up to 14 or 18 fathoms in some places are real veins, whether they are also ore beds, as Mr. Werner<sup>19</sup> thinks, to describe the peculiarities of melting of each ore, is not so simple a thing. Such observations and descriptions are very revealing and, in addition to mineralogy, geognosy and chemistry knowledge, taking much time and labourconsuming. It took me ten hours to look over the Wieliczka salt-mine; describing it, however, I understood that this was too little to reach that this description would be useful for our country. I have such a goal; but to reach it I had to look over the Transylvanian and Hungarian salt mines, to describe all geognostic circumstances that attend these mines on the land surface. One can suppose that the description of a salt-mine of a strange country cannot be useful for our country. I think otherwise, basing on that knowledge. Firstly, in all known mines, gypsum accompanies salt, and this inseparable company of these two minerals presents a poser for geognostics to be solved. Secondly, natural sulphur and cold sulphurous waters are often found close to the white salt mine; such a situation is present at the Wieliczka in Galicia, at Bex in Switzerland, Sicily and Spain. In the Lithuanian Upytė Powiat<sup>20</sup>, in Kursh and, as far as I know, in Podole Gubernia, gypsum rocks or mounts are found; in Upyte and Kursh, at the gypsum rocks [outcrops] cold sulphurous springs, where natural sulphur should be, are known. These geognostic circumstances, the same in several places being far away from each other, enable to suppose that we shouldn't have a long wait for white salt beds in our environs of gypsum rocks and sulphurous springs; other circumstances observed in the salt mines of Transylvania, Hungary, Wieliczka and Bochnia, as well as those detected later in gypsum rocks of Kursh, Upytė, Podole or other areas of the Russian Empire, confirm the opinion that white salt hidden under the surface could be found in Lithuania or in any other localities in our region. One might remark that the dug out salt is always related to high mountain ridges, and we do not see such mountains in our country, therefore it would be vain hope to find it here. I answer that this reproach about high mountains cannot be applied to all provinces of the Russian Empire; secondly, the dugout white salt and gypsum as a companion of salt on the land surface or in the mines depend on rocks of secondary

<sup>&</sup>lt;sup>10</sup> Ignaz Edler von Born, 1742–1791 – Austrian mineralogist.

<sup>&</sup>lt;sup>11</sup> Orig. *Mennica Kremnicka*, present – Kremnica, Slovakia.

<sup>&</sup>lt;sup>12</sup> Orig. *Hronice*, present – Hronec, Slovakia.

<sup>&</sup>lt;sup>13</sup> Jean Étienne Guettard (1715–1786) – French geologist.

<sup>&</sup>lt;sup>14</sup> Robert Townson, Towson – English traveler and mineralogist.

<sup>&</sup>lt;sup>15</sup> Jean Henri Hassenfratz (1775–1827) – French chemist and politician.

<sup>&</sup>lt;sup>16</sup> Sextern, sexternion – book format, six double sheets or 24 pages.

<sup>&</sup>lt;sup>17</sup> Author seems to mean his work "O stanie dzisiejszym mineralogii" published in 1806.

<sup>&</sup>lt;sup>18</sup> Instrukcja dla JP. Symonowicza, CVIA, f. 721, 1803 (cit. Garbowska, 1993, 82).

<sup>&</sup>lt;sup>19</sup> Abraham Gottlob Werner (1749–1816) – German geologist, professor of Freiberg Bergakademie, chief exponent of the Neptunian theory.

<sup>&</sup>lt;sup>20</sup> Upytė Powiat – in 1801–1843 one of powiats in Vilnius gubernia, its capital was Panevėžys.

formation, i. e. layered rocks; layered rocks often are very low and covered by alluvial rocks; in some areas they are stretching a hundred or two hundred miles from the primary mountains; our rocks, i. e. the Lithuania's and Podole's gypsum mountains, as well as our Čiobiškis<sup>21</sup> sandstone rocks are, undoubtedly, the layered rocks. The *Korzec porcelain ground*<sup>22</sup> *should be in, if not the primary* or transitional rocks, then really in the layered rocks. If there are rocks where always-white rock salt is found, nobody can say anything against detection of white salt in our land, if only other geognostic signs showed its beds hidden in subsurface. There is no need for me to obtrude to the University about what a great benefit would be for our country, if we could find this mineral of primary need in our area. I wanted to make a trip to Hungary and Transylvania with a purpose to visit and describe the salt mines of those regions, to look over Bochnia and once more Wieliczka. I have also visited other mines in Hungary, Transylvania and Tatras<sup>23</sup>.

More than hundred students, who attended my lectures on mineralogy, including twenty one who passed the exams, persuade the University that the mineralogy knowledge in our country, in a short time, will become more popular than it was up to now. Many of them will study rock strata on the banks and valleys of our rivers, in order to satisfy various economic needs. In my lectures, I have finished the first class of oryctognosis, in all cases integrating the geognostic, geographical and economic knowledge about each mineral; the major part of my students have copied my sextern down; the opinion about their progress was expressed to the University by Highly *Esteemed Rev. Dean of Physics Faculty*<sup>24</sup> *and professors,* who took part in the examinations. Recurring to the trip that I wanted to carry on, I have the honour to inform the University that Hungarian, Transylvanian and Tatras mines are far away from each other, thus, visiting them caused expenses greater than I was given last year. In the mountains, where there is no post and rare [habitant] keeps horses, to drive a mile or several miles, one should pay a local gold coin (*zloty rynski*) per mile, moreover, to fodder a horse at one's own charge. Last year, all my trips made up 443 miles, except for distance covered by foot - then the total should be doubled; one has to take a guide everywhere, an office servant (officialist) who accompanies you to the mine, who shows you the furnaces and various machinery; the miners carrying lamps in

the mine also should get at least their daily money; one can take an attendant not for good but for protection from various incidents. I shall continue the trip until I see these localities: Szczawnica, Koenigsberg, Kremnica, Bystrzyca, Hronitz with all its environs, Dobszawa with environs, Szmelnica, Gelnica, Czerwenica, salt mines at Eperiesz, Telkobanyi, Nagybanyi, Felsobanyi, Kapnik, Jenestra, salt mines in Marmar District and other mines in the same District, salt mines at Torbo, at Decso and many other localities in Transylvania, in the same region Verds Patakas, Ofenbanyi, rivers of Aranya, Rezbanyi, Abrubanyi, Korozbanyi, Salatny, Jacebay, Boiza, Porkura, Slanucy, Nagyagu Toplicy, Tsertes, Vayda, Hunyad; in the Tatras: Doynaski, Oravicy, Saski, Moldavy; in olden Galycia: Wieliczka and Bochnia; in new Galycia: Olkus mountains and the copper mount. I shall not miss also the earth coal and alum mines (halunowych miner) either in Hungary or in Transylvania. As for salt mines, my work will be as follows: most detailed description of all minerals accompanying the salt, as well as separate and general geognostic investigations. As for various ore mines: firstly, description of rocks forming a certain mountain in Werner's language and method, their superposition and belonging to a formation. Secondly, description of veins and ore beds occurring in these rocks, description of veins and various ores in them, many of these ores contain silver and gold, how the veins occur and are rich at different depths and different localities, vein depth, width, inclination and intersection of veins, their age with regard to each other, how many veins or ore layers are found to belong to the same formation, etc. Thirdly, metallurgy of various ores, or metallurgy works for various ores. Because Hungarian copper is thought to be the best in Europe, its quality cannot depend only on the way of its smelting from ore; hence, I will have to make efforts to investigate and make detailed descriptions of copper ore melting particulars. Visiting all the above-mentioned localities and their mines will take me more than a year. I ask the Council of the Vilnius Imperial University to allot two thousand five hundred roubles in silver for my trip useful in all respects. The instructions of HG Duke Mr Curator<sup>25</sup> prescribe me to buy "a collection of ore minerals produced from veins and mountains in the Hungarian and Transylvanian mines, supervising that the samples selected were not small or damaged". I do understand that the University will not refuse to take the chance and buy these minerals. In the localities with mines it is possible to buy at popular prices very rare and excellent minerals which, in my own experience, would cost much more when buying from the traders. Moreover, minerals bought at the site are much more valuable, because their geography is known; thus the University seems, in time, to form a geographical collection from various regions. The region of Hungary and Transylvania is very rich in precious and excellent minerals. For thousand roubles in silver, the University would be able to purchase a very

<sup>&</sup>lt;sup>21</sup>,... nasze skały piaskowca (Grés) czabiskie..." Most probably the wellknown and excellent Quaternary sandstone outcrops on the Neris River banks at Čiobiškis (*Czabiszki* in Polish) are meant; this was a township in Vilnius Powiat with the Ostrowiec [Astravas] manor nearby. Čiobiškis was pointed to have a sandstone quarry.

<sup>&</sup>lt;sup>22</sup> "ziemia porcelanowa korecka" – Korzec (Rus. Korets), a township in Wolynsko Podlasie, Nowogrod-Wolyn Powiat, where in 1788 Duke A. K. Czartoryski, who owned the township, established a famous porcelain factory. Kaolin clay is the raw material in the production of porcelain.

<sup>&</sup>lt;sup>23</sup> Orig. *Banackie*. Mines in Tatras; *banya* (Hung.) – lowland, mine.

<sup>&</sup>lt;sup>24</sup> Józef Mickiewicz, uncle of the poet Adam Mickiewicz.

<sup>&</sup>lt;sup>25</sup> Adam Jerzy Czartoryski, the University Curator in 1803–1824.

valuable and the rarest collection of minerals of those countries, both in oryctognosis and in geognosis. One thousand roubles would be necessary to pay the transport of this collection to Vilnius. There is no need to remind the University that the university collection makes only a small part of the mineralogy collection that should be owned by the University, and that the geography of such a small part is lost by its former owners; therefore it cannot be used for lectures. If the University plans to form mineralogy collections for its district gymnasia, at least two thousand roubles in silver should be added to the above-mentioned sum. We would be able to buy several small collections for this money. There are such minerals as natural tellurium (Tellurium nativum) etc., which are not detected anywhere except for Transylvania.

> Signed Roman Symonowicz Adjunct of Imperial University S. Malewski Prof. Sekret. R. 1804. 30 April"

#### FATE OF THE MINERALOGICAL COLLECTIONS

R. Symonowicz used to diversify mineralogy lectures by showing minerals from a large mineralogical collection of the Vilnius University – about 20 800 specimens. The main part of this col-

Do pow.rzechnego Zebrania Professorow Imperatorskiego Wileńskiego Univer-sytetu. Od Romana Symonowicza, adjunkta tegoż Uniwersytetu. Wincy podpisany podalem 2 obowingthe moiego, na po this tego roku szkolnego, pismo Do Jasnie Wielmoznego . Ktora Imperator kiego Wile uskiego Uniwersytetu, w Kto rem uniadomilem, naprio: is nerniourie nicodnosia, za Inego pozytku z lekcyi publicznych mineralogii z pr. czyny wietkieg tiezby tychże uczniów, a małowi godin przeznaczonych do Dawania lekcyi tey nauki; że nauka mineralogii zależy na widzeniu i rospoznaniu chara kterous minevalow; ie tych charakterous nie moie ucie, w kilku sekundach czasu dobrie widziec, a tem barzicy. rospoznać ich i w pamięs wrazic. Powtore uwiadomi Pem: ie dla nacisku urmiow usituiagych widziec mine lem: ze dla nacisku uszniow usiliurzych widziec mine raty pokazywane, i zamieszania stad na lekcyi powska iacego, niemożna prawie drwać lekcyi numeralogii f. Miatem przez kitka miesięcy stu dziesięciu uczniow z tych niektorym uprzyknyto się cisnać się ustawi cznie dla widzenia mineratow: lub przychodzie do pk ty godzina wozczniew przez lekcyją. Ila zaięcia miesu ci zaprestali chodzie na lekcyte:/. Potrzecie, uwiado = mitom: że najwiekpa część uczniow przymu sona iest próżnować przez naj większa część lekcyj: bo pro

Fig. 3. Facsimile of R. Symonowicz's letter to General Meeting of Professors of Vilnius University

3 pav. R. Simonavičiaus laiško Visuotiniam Vilniaus universiteto profesorių susirinkimui faksimilė lection was sampled by himself -12 643 specimens of minerals and rocks, and was considered to be the fourth in Europe of that time, after those of Werner in Freiberg, De Drée in Paris, and Van der Nulle in Vienna<sup>26</sup>. R. Symonowicz thought that the University should pay him additionally for the use of his personal collection at the lectures on mineralogy and support its upkeep. On 16 April 1810, he wrote an address on 15 pages to the General Meeting of Professors of Vilnius University, describing in detail the activity of the Mineralogy Department, the importance of the mineralogical collection and that students should have a possibility to take and keep minerals in their hands<sup>27</sup> (Fig. 3). On July 9, 1810, he wrote to the University Curator Adam Jerzy Czartoryski: "I supplicate His Grace Wojewoda Duke a favour that I was paid for using my own mineralogy collection at my public lectures... University will pay me for the use of my collection 500 roubles in silver per year'28 (Fig. 4). This document is registered in the 1810 Yearbook of Vilnius University<sup>29</sup> (Fig. 5). It is known that Curator Czartoryski was intended to take positively Symonowicz's nomination to the mineralogy professor position. But Rector Jan Sniadecki kept silence. Most likely it

I theman rat nayneterning last faire More aby mit by a saplacone to be, se Do tych eres as water mayo tion mineralogianego na takaja millione festi ber obrany profession ordynaryymyn spenigia for mbli eretenych dick nice mby steer nimerestegiony the Un wervytete sa Junderican every brigge mable retenych -, Samina to invictigat saptacana mi alle sacar, alle poto wa same griga car polowa proderium rote prystage 1811. 3. feili rachary a Universitacie, tak ine drie coste ga ibien mineralogi nargo icit Durdzie si a piet tyrzy y set suble seekingit. Tima ta bedrie ini swystacone a sarar alle naplaby pried Komen rote torarning frego 18.10 W 19m propriete nie programs, na sitie starania i garone nod 19m zbioren, store typte pressanie bydz maig scharmerica. It. Let there reglet mis and give surge stren. mineralogister file go unjurat na lekeyie unterrane , they beer obra seven Ordynarying 2 pensyig 12000 milli seb 20 arywanie mays abion saplasi ou Universight 500 varet. Onlas return 500 ruble me more my inden proved Claringerryte how to reversion protons abiom, story sampe by this ming what mercing. The ther isst restoring by mi is simile of

Fig. 4. Facsimile of R. Symonowicz's letter to A. J. Czartoryski 4 pav. R. Simonavičiaus laiško A. J. Čartoryskiui faksimilė

<sup>&</sup>lt;sup>26</sup> Department of manuscripts, Library of Vilnius University, VUB RS, F2-KC3, l. 264.

 <sup>&</sup>lt;sup>27</sup> Ibid, VUB RS, F2-KC3, l. 257–271.
<sup>28</sup> Ibid, VUB RS, F2-KC3, l. 275.

<sup>&</sup>lt;sup>29</sup> Ibid, VUB RS, F2-KC3, l. 255.

W. H. L. C. K. Termonovies Thoman 1.1.1.4 OR HEWELSK &

Fig. 5. Facsimile of Vilnius University Yearbook for 1810 5 pav. Vilniaus universiteto 1810 m. metraščio faksimilė

was too late. After Symonowicz's death in 1813, his brother Jacob sold the collection to the University for 10,250 Roubles in silver (Rudnickaitė, Žalūdienė, 2003).

The published and archival data show that from the very first day of its establishment, the Vilnius University Mineralogy Department was active in both teaching and research (Grigelis, 2006). Mineralogy, lectured there as a supplementary discipline since 1803, favoured the subsequent development of geological sciences in the Vilnius Educational District. The University Council promoted this course to the rank of Department in 1822, after the Chair of Mineralogy was approved.

#### CONCLUSIONS

The theoretical ideas of Vilnius professors were mostly based on the neptunistic theory of Professor A. G. Werner from the Freiberg Mining Academy, who used to say that all deposits and rocks originated from water. However, the teaching of mineralogy at the Vilnius University was at a high level, and pioneer manuals compiled by R. Symonowicz, F. Drzewiński and I. Jakowicki contained classifications, descriptions and definitions of minerals. Investigations on mineral chemistry were also performed. The staff and alumni of the Mineralogy Department carried out a considerable amount of scientific work. They were prospecting for minerals, forming scientific heritage with rich collections as well as the library, and many written sources. Unfortunately, the property of the Mineralogy Department (collections, library, etc.) was dispersed after the University was closed (in 1832), and the fate of the collections still remains almost unknown.

#### ACKNOWLEDGEMENTS

Author is deeply indebted to Professor Wojciech Narębski, Cracow, and Professor Juozas Paškevičius, Vilnius, for valuable reviews of the manuscript and helpful comments. Cordial thanks to Professor David Oldroyd, Sydney, Australia, who friendly red the first version and edited the English language of the manuscript. Department of Manuscripts of the Vilnius University kindly provided for working with Roman Symonowicz's manuscripts and related bibliography.

Dr. Jan Kozák, Geophysical Institute, Prague, Mgr. Elena Kašiarová, State Central Mining Archives in Banska Štiavnica (ŠÚBA), and Ing. Richard Kaňa, s.r.o. Hodruša-Hámre, are thanked for essential support of author's visit in April 2007 to Slovakia mining sites in Banska Štiavnica, Špania Dolina and Kremnica, studied by Roman Symonowicz two hundreed years ago.

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#### Algimantas Grigelis

### GEOLOGIJOS TYRIMŲ RAIDA LIETUVOJE: R. SIMONAVIČIAUS "MINERALOGINĖ KELIONĖ"

#### Santrauka

Romanas Simonavičius (1763–1813), pirmasis mineralogijos lektorius ir Vilniaus imperatoriškojo universiteto Mineralogijos katedros organizatorius, 1803-ųjų vasarą Universiteto buvo išsiųstas į "mineraloginę kelionę" į Transilvaniją, Vengriją ir Lenkiją, kur susipažino su metalų rūdų ir akmens druskos gavyba ir perdirbimu, surinko didelę mineralų kolekciją. 1803 m. rugsėjo 1 d. adjunktas R. Simonavičius pradėjo skaityti mineralogijos paskaitų kursą Vilniaus universitete. 1804 m. jis išvyko į Freibergo Kalnų akademiją, kur vienerius metus studijavo mineralogiją pas žymųjį profesorių A. G. Vernerį. 1806 m. paskelbė pirmąjį mineralogijos vadovėlį lenkų kalba ir sukūrė pirmąją mineralų klasifikaciją. R. Simonavičiaus, kaip mineralogo, puikus išsilavinimas, plačios žinios ir pasiekimai leidžia daryti išvadą, kad jis gali būti laikomas geologijos mokslo pradininku Lietuvoje.

Straipsnyje skelbiama visa R. Simonavičiaus "mineraloginės kelionės" ataskaita Vilniaus universiteto tarybai, pirmą kartą pasektas jo kelionės maršrutas dabartinėje Slovakijoje, Banska Štiavnicos, Banska Bystricos ir Kremnicos vietovėse.

#### Альгимантас Григелис

## РАЗВИТИЕ ГЕОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ В ЛИТВЕ: МИНЕРАЛОГИЧЕСКОЕ ПУТЕШЕСТВИЕ Р. СИМОНОВИЧА

#### Резюме

Роман Симонович (1763-1813 гг.), первый лектор курса минералогии и организатор Кафедры минералогии в императорском Вильнюсском университете, летом 1803 г. был командирован университетом в минералогическое путешествие в Трансильванию, Венгрию и Польшу, где ознакомился с добычей и переработкой руд металлов и каменной соли, собрал большую коллекцию минералов. С 1 сентября 1803 г. Р. Симонович стал читать курс минералогии в Вильнюсском университете. В 1804 г. он на один год отправился во Фрейбергскую горную академию для научной работы по минералогии к знаменитому профессору А. Г. Вернеру. В 1806 г. Р. Симонович опубликовал первый на польском языке учебник по минералогии и разработал первую классификацию минералов. Р. Симонович прославился своим минералогическим путешествием, его отличное образование минералога, широкие познания и достижения позволяют сделать вывод о том, что он может считаться родоначальником геологической науки в Литве.

В статье на английском языке публикуется полный текст отчета Р. Симоновича Совету Вильнюсского университета о минералогическом путешествии, впервые прослежен маршрут его поездки, который проходил по современной Словакии, в местностях Банска Штявница, Банска Быстрица и Кремница.