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**EDUCATION OF MEMBERS OF TRANSPORT SERVICES OF  
TSARIST RUSSIA IN THE 1830S. ADMISSION AND EXAMINATION  
OF STUDENTS OF THE SAINT PETERSBURG INSTITUTE OF CORPS  
OF ENGINEERS OF ROADS OF COMMUNICATION**

**Summary.** This paper focuses on the phenomenon of the strongly complicated process of education of cadets and officers of tsarist transportation services corps during the 1830s of the 19th century. While primarily commencing this short study with introduction and changes in the didactic process occurring in Saint Petersburg Institute of Corps of Engineers of Roads of Communication at the early stages of its development, the main scope of the research was to describe: a) changes and restriction in the accessibility to the very process of education given in this Institute, b) the alteration in the formal entry and most of all scientific requirements. c) the outcome and circumstances of final examinations, all happening during the third decade of 19th century.

**Keywords:** tsarist transportation, Russian Empire, administration structures, 19th century

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## 1. A SHORT OUTLINE OF CHANGES IN DIDACTIC PROCESS CONDUCTED AT THE INSTITUTE OF CORPS OF ENGINEERS OF ROADS OF COMMUNICATION UNTIL THE BEGINNINGS OF 1830S.

It was on November 1/13, 1810, when the so-called Institute of Corps of Engineers of Roads of Communication started its formal activity, as the opening of this educational institution took place in the presence of tsarist Chief Director of Roads of Communication, Prince Georg of Oldenburg<sup>2</sup>. At the same time, 30 students were admitted to this institute in order to commence pursuing a three-year teaching course.

The assumption was that after completing the first year of teaching, those of the students who were considered as "worthy of further promotions" received the (military) rank of ensign, after completing the second year of education, they became second lieutenants, in the third year of their studies, they went on to active duty as engineering lieutenants. In the initial period of the Institute's activity, the number of subjects taught there was not very staggering. First of all, they taught at the St. Petersburg Road and Engineering School: a) the foundations of "elementary mathematics", b) rules for drawing of plans, c) descriptive geometry, d) "shadow theory", e) statistics, f) rules for the construction of vaults, g) basics of drawing, and finally, h) rules for "breaking of stones".

After a short period of time, it turned out that the whole lecture course prepared in this capacity did not meet the specific requirements, imposed on the then Russian road construction process, their infrastructure, guidance as well as supervision rules. In this connection, the following lectures were added to the original basic teaching programme: a) "integral calculi", b) differential calculi, c) the practice of applying of descriptive geometry, d) dynamics, e) construction, f) physics, g) chemistry, h) mineralogy, and i) science of fortifications. The changes introduced, of course, resulted in the fact that the current three-year course of study was transformed into a four-year training system. The students themselves were divided into four "sections" (in other words: "brigades"); a) the first "section" included second lieutenants (French: sou-lieutenents), b) all ensigns (French: enseignes) were enrolled in the second "brigade", c) the students of the first year (French: élèves) were included in the third "section", and finally d) to the fourth "brigade" the whole of second grade students were included (French: surnuméraires)<sup>3</sup>.

Later on, namely in 1822, the general course of teachings at the Institute of Corps of Engineers of Roads of Communication was extended to include lectures; a) "on carpentry", b) "on drawing cards/plans", c) "gnomonon" [gnomoniké téchne], d) applied mechanics, e) general construction, f) beginnings of tactics, g) science of artillery, and finally (h) science of strategy. Starting from 1824, students of the Institute who did not possess officer degrees (namely: cadets) were living obligatory in the campus of the university. Initially, the number of such cadets was 72. Out of the whole number of them, 40 individuals received government

<sup>2</sup> A.M. Larionov, *History of the Institute of Engineers of Roads of Communication of Imperator Alexander I for first one hundred years of its existence*. Saint Petersburg: Printing House of Ju. N. Erlich, 1910, p. 29; S.M. Zitkov, *Institute of Engineers of Roads of Communication of Imperator Alexander I. A Historical sketch*. Saint Petersburg: Printing House of Ministry of Roads of Communication, 1899, p. 10-11; E.M. Sokolovskij, *Fifty years of the Institute of Corps of Engineers of Roads of Communication. A historical sketch*. Saint Petersburg: Printing House of Commercial House S. Strugovscikov, G. Pohitonov, N. Vodov and Co. 1859, p. 4.

<sup>3</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski*. Warsaw: S. Olgerbrand, 1838, p. 347-348; E. Sokolovskij, *Fifty years of the Institute of Corps of Engineers of Roads of Communication. A historical sketch*. Saint Petersburg: Printing House of Commercial House S. Strugovscikov, G. Pohitonov, N. Vodov and Co., p. 11.

scholarships, and the remaining 32 people paid for themselves the costs of their education, maintenance, etc. The latter were called so-called “pension students”.

Then a new category of students soon appeared in St. Petersburg’s Road Institute. The reason for it was that within the tsarist Communication Corps was then created a separate section, which received the name of “a branch of military builders”. For the creation of a new category of persons who were counted among members of the Corps of Engineers of Roads of Communication, stood a sort of pressing need for active use in the conduction of actual road construction process even the “learners”, who were still studying as future-to-be transportation officers. They were those officers who were “not so much advanced in the teachings, as persons still studying /.../, [but who] could usefully be used to carry out works and constructions”.

In view of the above, in the early 1820s, one more transportation school was established in St. Petersburg, teaching in a way of two-year course study, the future employees of Russian road engineering services. This institution was called the School of Builders. Originally, it was agreed to accept into a new teaching unit a 100 students, who having graduated from this university, received the (military) rank of an ensign. To the Institute of Corps of Engineers of Roads of Communication itself, this was initially important as far as the most talented of those ensigns were then given permission to continue their education at the Institute. Of course, having received the ranks of officers, they were permitted at the Institute of Corps of Engineers of Roads of Communication to sit in the class intended for ensigns and after showing proper progress in science, they were directed to an engineering course, where they could learn together with the students (the Institute’s officers)<sup>4</sup>.

Subsequently, in 1829, Tsar Nicholas I approved a new law on the Institute of Corps of Engineers of Roads of Communication<sup>5</sup>.

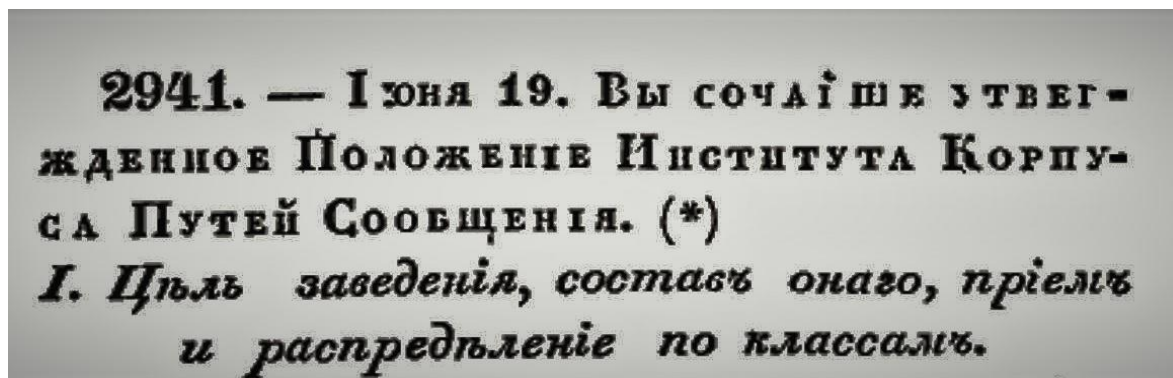


Fig. 1. The introduction of Tsar Nicholas I’s law of 19 June / 1 July 1829 on the Institute of Corps of Engineers of Communication<sup>6</sup>

As a consequence, the Institute of Engineers of Corps of Roads of Communication received a new organisational form at the turn of the twenties and thirties of the nineteenth century, although the university was still under the management of its director, supported by

<sup>4</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski*. Warsaw: S. Olgerbrand, 1838, p. 348-349.

<sup>5</sup> *Full Digest of Laws of the Russian Empire. Second Edition. Saint Petersburg: Printing House of Second Division of His Imperial Majesty’s Chancery*, 1829, Tom 4, 1829, Sankt Petersburg, 1830, p. 432-440.

<sup>6</sup> *Ibidem*, p. 432

two of its direct assistants. One of them was solely responsible for scientific issues only, the other took care for economic issues, as well as for the supervision of any criminal cases at the Institute.

At the time, the teaching corps employed by the Institute consisted essentially of 15 professors. Among them were both the land and water communication officers, and members of the St. Petersburg Academy of Sciences, and “other first-class [science] institutions”. The total number of professors had to be increased at that time by 6 auxiliary professors. The overall composition of the teaching staff of the Institute also included 24 so-called “correspondents”, officers of the Corps of Engineers of Roads of Communication. At St. Petersburg Road Academy, the following additional members of teaching staff were still employed; a) head of the workshop, b) people assisting in the construction of models, c) two Russian language teachers, d) two teachers of French language, e) a teacher of military code, f) “instructor of horse riding, drawings and gymnastics”<sup>7</sup>.

It is extremely important to notice here, that the changes made in the aftermath of introducing of new legal solutions included the process of absorbing the Institute of Corps of Engineers of Roads of Communication, mentioned above, the St. Petersburg School of Builders. It happened that from that point in time within the walls of the transportation university, they automatically became students, who would be encountered as; a) cadets, b) ensigns, and c) officers. At the same time, the structure of the Institute's education system was broadened, extending the curriculum by two new classes, that is, the fifth grade and the sixth grade, which could be considered (for example, by Alexander de Krusenstern) as sort of preparatory classes for commencing proper study. As a result of applying these solutions; a) the cadets were now learning in the fourth, fifth and sixth class of the Institute; b) in the third class ‘the sciences was taken’ by officer cadets, (c) ensigns learned in the second grade, and d) in the first class “science was learnt” by second lieutenants<sup>8</sup>.

In connection with the introduced organisational changes, and in particular reference to the re-evaluation of the structure of the teaching process itself, the scope of the whole educational programme given at the St. Petersburg Institute of Corps of Engineers of Roads of Communication was substantially changed. Specifically, in the fifth and sixth grades of the Institute the cadets had to learn; a) the basics (grammatical rules) of Russian and French languages, b) universal history, c) geography, d) the basics of mathematics, that is, arithmetic and algebra, e) geometry, and f) calligraphy.

In the fourth grade, the curriculum was of course expanded. It was necessary to learn at this level; a) Russian grammar, b) Russian geography, c) Russian hydrography, d) a set of “mathematical sciences” (including the repetition of the material being already processed and the completion of knowledge in the field of algebra), e) “both sciences of trigonometry”, f) ability to use geodetic tools, g) drawing up plans, h) mineralogy, i) analytic geometry, j) descriptive geometry, k) “shadows theory”, l) linear perspective, m) the basics of different architectural styles, and finally, n) elementary tactics.

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<sup>7</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski*. Warsaw: S. Olgerbrand, 1838, p. 350-351. A.M. Larionov, *History of the Institute of Engineers of Roads of Communication of Emperor Alexander I for first one hundred years of its existence*. Saint Petersburg: Printing House of Ju. N. Erlich, p 87-88. Here one can find detailed data on employed persons.

<sup>8</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski*. Warsaw: S. Olgerbrand, 1838, p. 348-349. A.M. Larionov, *History of the Institute of Engineers of Roads of Communication of Emperor Alexander I for first one hundred years of its existence*. Saint Petersburg: Printing House of Ju. N. Erlich, p 85.

During the teaching course in the third grade of the Institute, the following subjects were conducted; a) the military code, b) the basics of French literature, c) “synthetic statistics”, d) differential calculus and integral calculus, e) “use of descriptive geometry for hewing stones and carpentry”, f) “the first part of the art of the building” (where knowledge of building materials should be mastered), g) “land communications”, h) stonework and mural works, i) architecture in the field of “building details”, and embellishing edifices decorations, j) drawing, k) “coloring”, l) an extended history of Russia, m) statistics of the Russian Empire and n) learning about artillery and field fortifications.

In turn, in the second class, the curriculum included; a) a lecture on the development of French literature, b) mechanics ( whose “science” consisted of analytical lectures in the field of: statistics, hydrostatics, dynamics and hydrodynamics), c) physics, d) “application of descriptive geometry to the mapping system, gnomony, and air perspective”, e) “construction of buildings prepared by means of an academic competition”, f) the second part of building science (which included: lectures on bridges, water transport, sailing on lakes, sailing on canals), g) science of “permanent fortifications”, h) lava drawing, and i) coloured drawing.

The final, first-class of St. Petersburg Institute of Corps of Engineers of Roads of Communication had in its curriculum; a) “mastering of the official style correspondence”, b) lecture on “world system and higher geodesy”, b) strategy, c) history and literature in the field of “skills”, d) “collection of art of all kinds of building”, e) applied mechanics, f) chemistry, g) mineralogy, and finally, h) creating projects (and their detailed descriptions) in the field of: civil architecture, road architecture, canal architecture, hydraulic works, and machine construction.

In addition, during the studies at the Institute it was obligatory to learn horse riding and gymnastics, as well as perform regular military exercises. The Institute's teaching programme apparently included some religious issues. For cadets and officer cadets, “the principles of religion and Christian morality” were lectured by three different clergymen, representing “Russian-Greek” (Orthodox), Roman Catholic and Protestant faiths. Finally, it should be noted here that the general process of “physical and moral education” of all the students of the Institute was consistent with the principles in force in all tsarist cadets corporations<sup>9</sup>.

At the turn of the twenties and thirties of the nineteenth century, approximately 250 pupils studied at the St. Petersburg Institute of Engineers of Roads of Communication, of course, these data have changed periodically. And so, in 1829, there was a total number of 240 students of the Institute, of which 160 were sponsored by the state, and 80 received education at their own expense<sup>10</sup>. In turn, Krusenstern gave in his publication from the epoch that (apparently during another university year) 265 of students of road engineering were studying there. 160 of these people received education at the expense of the state, while 105 more people studied, covering all their expenses in the amount of 1,200 rubles a year (including tuition) from their own funds. These data indicate, however, that at least the number of Institute students supported wholly by the state, that is, 160 persons, remained unchanged in this period. It should also be remembered that every year the Russian State Treasury allocated 192 thousand rubles to the maintenance of the St. Petersburg Transportation Academy<sup>11</sup>.

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<sup>9</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski.* Warsaw: S. Olgerbrand, 1838, p. 350-352.

<sup>10</sup> A.M. Larionov, *History of the Institute of Engineers of Roads of Communication of Imperator Alexander I for first one hundred years of its existence.* Saint Petersburg: Printing House of Ju. N. Erlich, p. 85.

<sup>11</sup> A. de Krusenstern, *An outline of the system, progress and state of public enlightenment in Russia. Composed from official documents. Translated into Polish by Karol Jerzmanowski.* Warsaw: S. Olgerbrand, 1838, p. 352; E. Sokolovskij, *Fifty years of the Institute of Corps of Engineers of Roads of Communication. A historical*

## 2. CHANGES IN ACCESS TO EDUCATION AT THE INSTITUTE OF ENGINEERS OF ROADS OF COMMUNICATION INTRODUCED IN THE EARLY 1830S.

Although in the 1830s, the internal structure of the Institute and its general way of governance did not change profoundly (perhaps except the shift in the position of its director, General-Lieutenant Bazen, who resigned from his position on September 5 /17 September, 1835)<sup>12</sup>, this period marked the appearance of a whole range of extremely important decisions regarding the recruitment of candidates for the tsarist Institute of Corps of Engineers of Roads of Communications. The first of these was the introduction of two significant personal restrictions in the accessibility to the learning process at this Institute. Thus, at the request of the managing chief of the Department of Roads of Communication and Public Edifices, Carl Wilhelm von Toll (who embraced this position on October 1/13, 1833<sup>13</sup>), as well as on the basis of the opinion given by the St. Petersburg Committee of Ministers, dated as of January 16/28 and January 30 / February 11, 1834, Tsar Nicholas I decided to change some of the solutions in these matters, basing on the existing laws. In this case, it was about; a) the law on clerks from October 14/26, 1827, and b) the Act on the Institute of Corps of Engineers of Roads of Communication itself, approved by Nicholas I on June 19/July 1, 1829, and then published by the decision of the Governing Senate, dated as of September 1/13, 1829<sup>14</sup>.

On the basis of the unitary monarch's decision, therefore, only the sons of Russian merchants belonging to the so-called most important First Merchant Guild for at least the uninterrupted period of the twelve preceding years were now entitled to enrol on the list of students of this Institute (in other words, it meant that sons of other merchants, etc., were automatically deprived of their right to study there). Furthermore, their education process itself had to be paid in principle, from private sources only, which of course excluded any state subsidy in their cases. On the other hand, it was much more important to introduce, simultaneously, a categorical ban on allowing foreigners to the St Petersburg Transportation Institute, who "henceforth neither with the financial support of the state nor at their own expense, had to be admitted [to the Institute]". After being accepted by Tsar on January 30/February 11, 1834, the formal law in these matters has been issued by the 1st Department of Governing Senate on February 20/March 4, 1834<sup>15</sup>.

However, not all of the regulations on accessibility to the teaching process at the St. Petersburg Communication Institute issued at that time were strictly restrictive in nature. It should be noted, though, that on November 27/December 9, 1836, the Russian Governing Senate issued an ordinance, under which it was decided to give access to the Corps of Roads of Communication for the sons of persons possessing the right to hereditary nobility, obtained thanks to their participation in the tsarist administration structure, while having the high official ranks. Now they were able to join the Corps of Engineers of Roads of

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*sketch*. Saint Petersburg: Printing House of Commercial House S. Strugovscikov, G. Pohitonov, N. Vodov and Co., p. 11. The Author writes here, that the actual number of all students at this time should have been estimated as 240 persons.

<sup>12</sup> E. Sokolovskij, *Fifty years of the Institute of Corps of Engineers of Roads of Communication. A historical sketch*. Saint Petersburg: Printing House of Commercial House S. Strugovscikov, G. Pohitonov, N. Vodov and Co., p. 41-42.

<sup>13</sup> A.M. Larionov, *History of the Institute of Engineers of Roads of Communication of Imperator Alexander I for first one hundred years of its existence*. Saint Petersburg: Printing House of Ju. N. Erlich, p. 93.

<sup>14</sup> *Full Digest of Laws of the Russian Empire. Second Edition. Saint Petersburg: Printing House of Second Division of His Imperial Majesty's Chancery*, Tom 4, 1829, Sankt Petersburg, 1830, p. 432-440.

<sup>15</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 18, 9/21 March, 1834, p. 108.



Communications, holding the rights of “volunteers or freelancers”<sup>16</sup>. Such a possibility, of course, also assumed the right to study at the St. Petersburg Institute of Corps of Engineers of Roads of Communication

**6764.**—Января 30. Высочайше утвержденное Положение Комитета Министровъ, объявленное Сенатомъ 20 Февраля. — *О дозволеніи приѣма дѣтей купцовъ 1-й гильдіи, состоявшихъ въ оной болѣе 12 лѣтъ сряду, въ число кадетъ Института Корпуса Путей Сообщенія, и о непріятіи вовсе иностранцевъ.*

Правительствующій Сенатъ слушали рапортъ Г. Главноуправляющаго Путей Сообщенія и Публичныхъ Зданій, что Высочайше утвержденнаго въ 19-й день Юня 1829 года (2941) Положенія Института Корпуса Путей Сообщенія § 4 опредѣлено: принимать въ число кадетъ онаго, между прочими, имѣющихъ право вольноопредѣляющихся, къ разряду конехъ, на основаніи существующихъ постановленій, принадлежать и иностранцы, равно какъ дѣти купцовъ 1-й и 2-й гильдіи. Припимая сіе въ соображеніе и имѣя въ виду, что Высочайше утвержденнымъ 14 Октября 1827 года (1469) Положеніемъ о канцелярскихъ служителяхъ Гражданскаго вѣдом-

Fig. 2. The legal proposal of the Russian Committee of Ministers regarding restriction of admission to the Institute of Corps of Road of communications, approved by Nicholas I on January 30/February 11, 1834 and then made available to the public based on the ruling made by the First Department of the Governing Senate on February 20/March 4, 1834 (the first verses)<sup>17</sup>

<sup>16</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 97, 15/27 December 1836, p. 577.

<sup>17</sup> *Full Digest of Laws of the Russian Empire. Second Edition. Saint Petersburg: Printing House of Second Division of His Imperial Majesty's Chancery*, Tom 9, 1834, Sankt Petersburg, 1835, p. 99.

### 3. RULES FOR ADMITTING STUDENTS “AT TREASURY EXPANSE” TO THE INSTITUTE OF CORPS OF ENGINEERS OF ROADS OF COMMUNICATION IN SAINT PETERSBURG, ANNOUNCED IN 1834 AND 1835.

The state authorities usually publicly announced the conditions to be met by candidates in order to be allowed entry into the ranks of students of the St. Petersburg Institute of Corps of Engineers of Roads of Communication<sup>18</sup>. In the 1830s, some announcements were still distributed in the Russian Empire, as well as on the territory of Vienna Congress Kingdom of Poland, later crushed and conquered by the Tsardom in Russian-Polish war of 1831. And so, in the middle of April 1834, such issued by the Institute announcements, regarding the possibility of becoming a student of this academy by acquiring a state scholarship, appeared in the press (in short form).

The date of the anticipated exam was set for the day of May 15/27, 1834. At the same time, the announcement issued in the spring of 1834 by the Institute of Corps of Engineers of Roads of Communication contained a detailed description of the conditions for admission into the school. The primary organisational provisions of this teaching unit, finally approved by virtue of the decision of Alexander I of June 19/31, 1820, were regarded as the guiding principle, from which it was clear that in the Institute cadets were accepted annually. However, in order to gain full admission, one had to first go through the one-year preparatory course.

The obvious boundary condition for obtaining the right to enter the Institute as a cadet was to be in the age group of at least 14 and 18 years old, being at the same time of “healthy complexion [of skin]”. Each candidate had to pass in the so-called “Institute conference” area, an appropriate exam, prepared to check his actual “scientific knowledge”. In addition, it was argued that young boys/men joining the Institute were expected to have relevant knowledge in the fields of; a) (Christian) religion, “according to their faith”, b) grammar of the Russian language, c) grammar of the French language, d) universal history, and e) general geography. In particular, an emphasis was put on the knowledge of Russian history and geography as well as of arithmetic and drawing.

In the spring of 1834, it was identified in great detail, the social categories from which the candidates for the cadets of the transport services may come. Hence, it turned out that first of all (which was nevertheless quite obvious) were accepted into the Institute children of nobility, staff officers and senior officers, and people with the right to free admission to universities. In the latter case, however, a restriction was introduced relating to the exclusion from the privilege of children of merchants belonging to the 2nd Guild as well as of foreigners. It was due to the fact that, under the two decisions of the St. Petersburg Committee of Ministers, representatives of both groups could no longer join the Institute ( see text above)<sup>19</sup>.

There were differences in the scope of the necessary documentation required for joining the St. Petersburg Transport Scientific Institution.

Firstly, on the basis of the implementation of the provisions of the Russian State Council, then confirmed by Nicholas on February 6/18, 1828, the nobility children had to provide copies of the “Nobility Deduction Units” protocols, on the basis of which they were recognised as nobles (“dvorianie”). On the other hand were; a) sons of staff officers and

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<sup>18</sup> Fine example of printing of such a conditions would be the booklet published by Institute of Corps of Engineers of Roads of Communication in 1824 would be bilingual: *Exam program for cadets of the Institute of Corps of Engineers of Roads of Communications 1824*. Saint Petersburg: Printing House of the Imperial Academy of Sciences, Sankt Petersburg 1824, p. 1-101.

<sup>19</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 26 z 6/18 April, 1834, p. 155.



senior officers coming from the nobility, whose fathers served in the army and on their own request were dismissed, and b) sons of officials of ranks or classes appropriate to the officer's ranks in the army, should have to submit their father's passports. In such a passport, there must have been written a precise description of their service, of course, signed by the military or civilian authorities under which their fathers served. In turn, the children of fathers still performing their duties as staff officers and senior officers and their respective civil servants were obliged to submit descriptions of the service of their fathers, signed by their "present" superiors. It was a permanent rule that it was always necessary to submit together with other documents, the baptism certificates signed by the right consistory.

Secondly, the Institute's authorities analysed in detail and made public the arrangements for admission to study at the St. Petersburg School of Transport for children of persons with the right to free admission to all of the Russian schools/colleges. First of all, it was about the youth of fathers who have the only so-called personal (that is, attached to a specific individual) nobility. Namely, this concerned primarily and mainly, the sons of senior officers who did not come from the nobility, and who did not acquire their rank while serving in their own regiments, but who finally received it while resigning from their post in the Active Army. At the same time, quite similar or identical situation concerned the children of these senior officers, who "had got this rank during their activity in civil service /.../ but not from the military service". According to the sentence expressed by the Russian Council of State, then further confirmed by Nicholas I on February 6/18, 1828, these categories of candidates should have submitted identical evidence similar to those provided for the children of the "standard" senior officers. Also in these cases, of course, there was the pressing need to provide baptism records.

Thirdly, the announcement of the conditions for joining the Institute Corps of Engineers of Roads of Communication examined in detail, the rights of children of the clergy of different rites. It was indicated then that - in accordance with the laws of May 3/15, 1818; June 25 / July 7, 1827, as well as of January 26/February 8 and December 14/26, 1829; a) sons of the Orthodox (in the original "Greek-Russian faith") priests and deacons, b) children of Protestant pastors, c) the sons of priests and deacons of the Uniate Church (that is, of the Eastern Catholic Church on the territory of the former Polish-Lithuanian Commonwealth, accepting the supremacy of *Sedes Apostolica Romana*), and finally d) male children of clergy of Armenian Church were all obliged to submit certificates issued by local clergy authorities, allowing them to enter the public service. In addition, these clergy sons were forced to submit graduation certificates from at least the "middle section" of the seminar. Additionally, it was necessary to prove that these prospective transportation students were not released from further seminary education because of any kind of "flaws". Finally, it was fitting to deliver their birth certificates, confirming that they were born at a time when their fathers had already been ordained. In turn, the children of male Protestant pastors had to submit, issued by the Council of Livonian and Estonian Affairs, confirmation of lack of obstacles in accepting them to the transport services of the Russian state.

The legislation, moreover, introduced partly similar restrictions of a general nature. Thus, candidates to the Institute were reminded of the principle that was previously introduced by the Act of December 5/17, 1802, on the basis on which there were entitled to free admission to study; a) university students (so-called "academics"), b) graduates of the Imperial Academy of Fine Arts in St. Petersburg, as well as c) alumni of all scientific institutions of the Empire with a special privilege status, but only if they were able to submit certificates of completion of acquired so far sciences and all the rights acquired for this reason.

Because, finally, according to the new regulations, only those children of merchants whose fathers had been in the 1st Guild for at least 12 years were allowed to enter the Institute of Corps of Engineers of Roads of Communication, moreover, they had to submit the relevant certificates from the city councils and magistrates. These certificates were not only meant to concern their fathers but should also include the consent of the local merchant trade union to exempt those candidates to study at the Institute from the obligation to perform military service, the usual duration at the time was 25 years. Such credentials were also to confirm the payment of tax for them. Another requirement imposed on the children of merchants was the necessity to present written by their consistory their “full-fledged” (that is, given in a legitimate way) births<sup>20</sup>.

Here it is worth noting that candidates wishing to join the Institute by paying their tuition themselves, were obliged to pay for half-yearly education fee in advance (600 rubles). In addition, a kind of warranty, signed by several “trustworthy” citizens permanently residing in St. Petersburg, must have been provided in such cases. Such an attestation had to include an annotation about ensuring a successive payment of tuition fees, which would be the responsibility of the guarantors themselves.

It was a general rule that each candidate, joining the Institute of Engineers of Corps of Roads of Communication under the age of 17, should have attached to his application a sort of confirmation (the so-called “attestat”) issued by a scholarly institution, school or private tutor, informing where and what he has taught accurately so far. Such attestation was accompanied by a certificate of “good condition of his manners and behaviour”. In the case of people who were 18 years old, the candidates in question were obliged to deliver an issued certificate by the local civil governor of their “conduct” for the duration of their stay in the place where they had previously lived. The way they behaved had to be “advantageous” (worthy of recommendation or praise), and any of the future students of the communication routes could not be “censored” (suspect) for any wrongdoing. In addition, candidates were required to provide a certificate of vaccination against smallpox. What was also needed was a certificate of civil authority about having or not, by the candidate himself or his parents of any immovable property, that is, “estates or houses”. It was evident that the records, prepared in foreign languages, as well as the official documents of “diligence”, had to be sent along with the appropriate translation into Russian. Such a translation had to be certified in an official form<sup>21</sup>.

Parents, relatives or guardians directly send their applications for admission of young prospective students to the Corps of Engineers of Roads of Communications to the director of the Institute, even if these letters were formally addressed to the Tsar, himself (sic). Parents who applied for admission of their sons to the Institute at the whole expense of the state, nonetheless should have brought them (in the original “get them transported”) to St. Petersburg headquarters of the Institute, in order to allow them to participate in conducting the entrance examination within the university buildings. Among the different lines of the announcement at stake, one could find a very specific statement, as there was placed in the following part of a script, information referring to rather an imprecise limitation of the number of people accepted at the time to the Institute. In fact, from among the young people coming for such an examination, only as many students could enter the St. Petersburg Transportation School walls as there were vacancies available at the given time. Of course, this unsteady number of vacancies could depend on many changing and in principle, arbitrary conditions.

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<sup>20</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 26 z 6/18 April 1834, p. 155.

<sup>21</sup> *Ibidem*, p. 155-156.

Actually, the decisive factor (at least formally) of admission to the ranks of the Institute's students was the very result of a comprehensive examination carried out on all of the required subjects, which meant that there were accepted "not differently than on the basis of obtaining the majority of points in the exam".

Some exceptional situations were anticipated here. And so, prospective candidate receiving good results on the exam, and fulfilling any other additional requirements of a prospective student who, however, due to the lack of adequate vacancies did not enter the group of students of the Institute of Corps of Engineers of Roads of Communication in the given year, at the same time acquired automatically the right to free access to this university before all other persons trying to enter the following year. However, this could only happen "after being proved on the second exam that the [given candidate] would have potentially made [in the meantime] bigger progress, and therefore can enter the higher class than he could have possibly entered the previous year".

Finally, the ordinance of mid-April 1834 indicated that a student upon completing the whole of his "scientific courses", which at the time meant the awarding of the rank of lieutenant in the Corps of the Engineers of Roads of Transportation, could be transferred to the civil service, holding rights to the rank available in state civil administration, granted normally and usually to students ending typical university education. Another indication of a legal caveat (written in the article no 12. of the regulation described here) was the statement about the inalienable need for extending by graduates, completing educational courses at the Institute of Corps of Roads of Communication on the principle of obtaining of a government scholarship, at least ten years of work done "under the knowledge of the Corps". The only acceptable derogation was the discovery of the graduate with a non-cured disease<sup>22</sup>.

Also in the following year of 1835, specific regulations were announced, defining the rules for joining the initial verification for membership itself at the St. Petersburg Institute of Engineers of Corps of Roads of Communication<sup>23</sup>. So similarly as in the previous year, - in accordance with the announcements published in the official press, the authorities of Institute gave the general public the possibility of getting knowledge on the conditions of entering into this scientific institution for a number of new cadets.

The deadline for sending applications along with the necessary documents was fixed for May 15/27 1835, and the date of the examination was set at June 1/13 of the same year. Of course, those candidates, who possibly would send their applications after the deadline, could not take the verification exam in the given year<sup>24</sup>.

As these announcements were also published in the subjugated Kingdom of Poland, hence, apart from the appearance of a number of supplements in the description of the required knowledge and some formal and administrative changes, one could trace, however, a significant difference in both notices. Well, the announcement published in the Kingdom of Poland in 1835 contained at the same time a list of textbooks, which were normally used at the level of education taught in individual classes of the Institute of Corps of Engineers of Roads of Communication. The purpose of adding to this list of books was to bring about such a situation "when these [individuals] wishing to enter one of this (that is, Institute) classes could use them to preserve monotony in the scientific system"<sup>25</sup>.

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<sup>22</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 27, 10/22 April, 1834, p. 160.

<sup>23</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 19, 8/20 March 1835, p. 109-110; *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 21, 15/27 March 1835, p. 121.

<sup>24</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 19, 8/20 March 1835, p. 109.

<sup>25</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 21, 15/27 March 1835, p. 122. Here the list of relevant books was added.

A comparison of the two lists of admission requirements to the St. Petersburg Institute of Corps of Engineers of Roads of Communication in 1834 and 1835 (when a number of requirements have been clarified, especially of a formal nature) indicates according to the author of this text, the persistence of relatively unchanged tendencies in respect of the "scientific" issues, that is, the then relative stabilization as to the initial educational expectations of prospective students. The other tendency observed would be the progressive stiffening or formalisation, and, above all, the specification of administrative requirements.

In addition to this, there was a significant factor in the unification nature of the tsarist transportation educational system of the time. At that time, these authorities officially recognised the need to clearly indicate which textbooks the prospective candidates were to study and prepare for exams from, while coming from outside the strictly Russian educational circle, but still being subjugated to Russian power<sup>26</sup>.

#### **4. FINAL EXAMS AT THE INSTITUTE OF CORPS OF ENGINEERS OF ROADS OF COMMUNICATION IN 1834, 1836 AND 1837**

An important supplement to the image of educational practice carried out at the St. Petersburg Institute of Engineers of Corps of Roads Engineers in the 1830s is the analysis, available in relation to the source information given in the form of published press reports of final exam sessions, conducted in this transport school in the period of our interest. The data available for the years 1834, 1836 and 1837 in the form of formally published reports are presented below.

Beginning the description of this process, one should focus on the events that took place at the Institute on May 3/15, 1834, when a proper examination was carried out in the presence and with the personal participation of general-adjutant count Carl Wilhelm von Toll, Chief of the Department of Roads of Communication and Public Edifices of the Russian Empire. In addition, during the exam itself, there were present in the congress hall "a large audience of science-bound scholars". The rule was that not only members of the Institute questioned the examined students, but the so-called audience was inspired to do the same, and this was because asking of various questions was supposedly encouraged. Of course, the content of these questions must match the criteria of "course subjects".

It can also be argued from the description that the overall exam result was more than successful, because "it was not possible to disagree about the accuracy and an exactness that the responses [of the students] were characterised with".

It should also be added that one of the important and formal parts of the whole "examination ceremony" was the reading of a special speech on the progress of road construction in tsarist Russia, prepared especially for this occasion by the then director of the Institute: General-lieutenant Bazaine<sup>27</sup>.

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<sup>26</sup> The most considerable influx of relatively big number of Polish prospective engineering students to Saint Petersburg was for instance undoubtedly connected with closing by tsarist authorities in 1831 (after the November Uprising) all of Polish higher educational system – including – teaching within polytechnic system - Warsaw's School of Civil Engineering, Roads and Bridges. See: J. Żywicki, *Education of Personnel for the Needs of the Kingdom of Poland in Architecture, Construction, and Civil Engineering*, *Annales Universitatis Mariae Curie Skłodowska*, Vol VIII, 1, 2010, p. 30-31.

<sup>27</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 35, 11/25 May 1834, p. 209; E.M. Sokolovskij, *Fifty years of the Institute of Corps of Engineers of Roads of Communication. A historical sketch*. Saint Petersburg: Printing House of Commercial House S. Strugovscikov, G. Pohitonov, N. Vodov and Co., p. 41-42. General Lieutenant Bazaine ceased to be the director of the Institute of Corps of Engineers of Roads of

However, the whole ceremony did not end there. At a later stage, the gathered guests (in the original: “the gathering of audience”) were guided by Count Toll through selected rooms of the Institute of Corps of Engineers of Roads of Communication. Particularly interesting were the lecture rooms, where a large number of drawings of the cadets were displayed for inspection, etc. In addition, the visitors had the opportunity to see selected scientific (storage) cabinets located in the Academy such as; a) the physician's cabinet, and b) the cabinet in which a set of various models have been placed. As this was underlined in the formal description of the whole event, the visitors additionally saw “all the belongings of the teaching institution, so beautifully maintained and abundantly supplied” in general<sup>28</sup>.

Another public exam of transportation students about which we possess published data took place at the Institute of Corps of Engineers of Roads of Transportation on May 5/17, 1836. Similarly, as in 1834, this event took place in the presence of Count Toll, and “a large group of high officials, distinguished individuals and members of the Academy of Sciences”. The questions asked by these people concerned various issues related to the entire curriculum in force. The result of the exam exceeded as usual “expectations”. An enthusiastic opinion found in the press article from 1836 indicates that the exam “was a new proof of the usual progress of the Institute, rightly for the greater part attributed to the care of the enlightened superiors who have so far led it”. While describing the level of answers given by students which were assessed as clear, accurate, and being of logical integrity. This, in turn, was supposed to be an exact proof of the “usefulness of the methods that were kept” by the lecturers and teachers working at the Institute. Needless to say, not all of these teachers were employed at the Institute of Corps of Engineers of Roads of Communication as their primary place of work. Namely, some of them worked full-time at the tsar’s Academy of Sciences and as well as at the University of St. Petersburg.

During part of the exam, but before the final examination of the officers’ class students, the director of this “teaching and research institute”, General Potier, gave a laudatory speech. In proper reference to the situation, words of Potier; a) described the methodology of the curriculum, b) presented “an image of the student's behaviour”, c) outlined the teaching duties of the Institute's teachers.

Subsequently, Count Toll found himself again as a guide to the Institute, leading, as he did two years ago, gathered publicity members through the individual halls, where various drawings, plans and projects were displayed. Then, the Institute's physical cabinet and the model gallery were visited. The latter has in the meantime been supplemented with “models of iron roads” and the dome of the Saint Petersburg church of the Holy Trinity. To further raise both the level of interest of those present in the whole event, as well as in the Institute's

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Communication on September, 5/17, 1835 (officially: at his own request, because of “poor health”). He was replaced in this position by the current assistant of the general director, responsible for the science: general-major Razimon the First, who at the same time continued to perform his current duties as a person responsible for scientific issues. On the basis of Nicholas I’s decision of December, 6/18, 1835, the next director of the Institute was general-lieutenant Potier (Russian mutilated version of the name: Pote), who performed his duties until October, 6/18, 1836, when he was released from his new function, formally in connection with his disease. On the basis of the tsar Nicholas I issue of October 10/23, 1836, general-major Gottmann (Russian spelling of the name: Gotman) was chosen as another director of the Institute. Colonel Sevastianov was also indicated at his assistant to scientific affairs. The latter replaced in this position the general-major Razimon the First, who was finally released at the same time from his service at the Institute, again formally due to his illness. This shows, therefore, considerable turmoil in the management cast of the St. Petersburg Institute of Corps of Engineers of Roads of Communications in the 1830s.

<sup>28</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 35, 11/25 May 1834, p. 209.

activity itself, Count Toll also decided to give his own personal lecture, describing this time various “hydrographic” systems.

Even if at first glance everything was almost quite the same as before, nevertheless in 1836 a significant change occurred in the description of the whole ceremony. It was then that it was noted that “the congregation was pleased to see that there were added quite many new subjects [of teaching], closely linked with the main skills, especially the moral history of the same teachings, that were so great grown in this Institute”.

It was also noted with an obvious recognition that “hence the care and foresight of some expert persons who are entrusted with [guidance of] the direction and maintenance of the Institute, do not neglect anything that may make it worthy of their purpose, the purpose of education for the service /.. /of capable engineers and faithful [tsarist] subjects”<sup>29</sup>.

Finally, in the next year of 1837, the public exam of the students of the Institute of Corps of Engineers of Roads of Communication took place on May 3/15. As before, it was held in the presence of general-adjutant Count Toll and the so-called “gathering, as numerous as great”, which composed at the time of; a) the president of the St. Petersburg State Council, b) the ambassador of the French king, and c) other “persons belonging to the diplomatic body”. Surprisingly, this time the answers given by the cadets and selected student-officers were merely regarded as “satisfactory”. However, this educational collapse was to some extent alleviated by the assessment of the answers given by some student-officers, who passed their exam with answers that “proved their great progress in the sciences”. This year (as it was, by the way, the twenty-fifth “release” of adepts in the history of the described St. Petersburg Academy), as many as 33 ensigns and 36 second-lieutenants (69 people in total) were deemed worthy of increasing in their ranks and referring to work directly in active service.

After completing the examination part of the event, General Gottmann (formerly a student, became director of the Academy from October 1836) presented a short speech, in which he outlined “the reasons of the progress that this [Institute] may rightly boast of”. In addition, Gottmann also directed his words to the students who were about to leave the university walls, making observations about their obligations to the Tsar and the fatherland.

Next, in the company of Count Toll, a traditional visit was made by the guests to selected rooms and cabinets of the Institute of Corps of Engineers of Roads of Communication, where they had put on public display; a) the best drawings and plans made by students, and b) some scientific archives. As usual, special attention was paid to the cabinets: physical, mineralogical and of models, where it was not without pride, that the occurrence of “variety of objects, their great number, [and] their wealth and perfection [of their] craftsmanship” was noticed<sup>30</sup>.

So as one can see, a typical description of the examination of adepts of St. Petersburg Transport Academy during the 1830s in a way consisted of three quasi-independent parts. Above all, the examination of the cadet or officers itself was described generally and briefly, as were the results obtained in this respect. In addition, there was a customary description of the speech given by the current director of the Institute. Typically, it was also emphasised in these reports the custom of “touring” the guests around the Institute's rooms and cabinets by the Russian “minister of transport” - Count Carl Wilhelm von Toll.

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<sup>29</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 37, 15/27 May 1836, p. 222.

<sup>30</sup> *Ibidem*, p. 212.



Fig. 3. Bolesław Skirmunt, Polish nationality cadet of tsarist Corps of Engineers of Roads of Communication as depicted in 1833<sup>31</sup>

Finally, it is worth noting that, although foreigners had finally been banned from joining the St. Petersburg Institute of Corps of Engineers of Roads of Communication, this did not apply to Poles, living after partitions of the Republic within the boundaries of the extended Muscovite Imperium. Plus it should also be recalled that after the November Uprising of 1831, they no longer had the opportunity to study in the colleges of the Congress of Vienna, Kingdom of Poland. For these two reasons, we are provided with some partial evidence (given for one year really) of recorded promotions of Pole students of the St. Petersburg Transport Academy.

Hence the year of 1836 turned out to be particularly important in this aspect, because at that time significantly, a lot of Poles received promotions (after completing the public exam), as considerable data on this subject appeared in official reports, available in form of press reports distributed in the Kingdom. As a result, it can be noted that the following people of Polish nationality and descent, students of the tsarist Corps of Engineers of Roads of Communication, obtained by order of Nicholas I of May 27/June 8, 1836 “elevation in ranks”. Among them, there were, first of all, the second lieutenants: Krassowski, Strokowski and Brzeziński, who were nominated as lieutenants. Further appropriate nominations for the rank of second lieutenants were obtained by the ensigns: Kieberdź and Smolikowski (in the future both of them became chiefs of the Departments of Roads of Communication/Land and Water Communications of the Russian Empire and the Kingdom of Poland), Suchodolski, Szymański, Zbrożek, Jowiec, Jerzemski, Hryniewicz, Sakowski and Horodecki. In turn, the following Polish non-commissioned officers were appointed to the rank of ensigns: Karol Napierski, Bronisław Slizień, Michał Bohomolec, Alexander Hłasko, Edward Brzezinski,

<sup>31</sup> Unofficial Site of the Depot of South-East Voronez –Kursk Railroad.



Augustyn Zaleski, Aleksander Matusiewicz and Prince Józef Drucki-Lubecki (apparently coming from famous Polish aristocratic family, whose representatives played important roles in the Russian-Polish relation of that time)<sup>32</sup>.

As can be seen from the obtained selective data, Poles constituted a decidedly over representative percentage figure of the students of the Institute of Corps of Engineers of Roads of Communication, raised in ranks in the mid of 1830s, especially in relation to second lieutenants and ensigns. For example, the number can be estimated as 18 to 69, (for 1836), which in practice accounted for approximately 26% of all promotions. It is difficult, however, to assess whether this relationship persisted throughout the whole of the 1830s, especially when one considers the political turmoil of that period and the general attitude of the invading Muscovite State to the Polish in question. On the other hand, however, it should be recollected that huge personnel shortages existed in the transport services of the Russian Empire at that time, which could have made possible blocking measures as counterproductive ones. This thesis is supported by Tsar Nicholas's decision of June of 1832, incorporating the Kingdom of Poland's transportation engineering services staff into the official administrative structures of the Russian Empire<sup>33</sup>. Even so, it would be an extremely rare case where the official tsarist policy in some sense co-operated with the bottom-up attitude of the Polish society.

## 5. Conclusion

When referring to the Saint Petersburg Institute of Corps of Engineers of Roads of Communication, the main organisational and didactic scheme and framework of the institution's activity (and their subsequent adjustment to the requirements of contemporary reality) and their adjustment to the requirements of the changing reality, were well undoubtedly already set in the 1820s, this is the next decade that brings a number of solutions which has significantly changed the scope and character of the teaching process of future tsarist transport services members at a higher level.

In the main part, of course, it could have been combined with the particular change in the administrative position of the head of Board of Roads of Communication and Public Buildings, which this new position found Count Toll, who, undoubtedly showed a deep interest in the research and teaching activities of Saint Petersburg Institute. This was essentially important in the event of relatively abrupt and multiple changes in the position of the director of the Institute of Corps of Engineers of Roads of Communication, which process was undoubtedly observed in that period.

With a chronic shortage of full-time, adequately educated employees of the transport administration in Nicholas I's Russia, the Estonian German at the Russian service, Count Toll<sup>34</sup> hardly tried to bring (with the positive effect of this idea) the strictest restrictions on access to the teachings of the Saint Petersburg Transport Academy, especially for people in the view of tsarist authorities considered as unauthorised, unnecessary, or even undesirable individuals. In order to achieve such a goal, such solutions were introduced; a) intra-Russian legal acts, explicitly excluding certain categories of the population from this already limited

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<sup>32</sup> *Petersburg Weekly. Official Gazette of Kingdom of Poland*, no 45, 16/28 June 1836, p. 267.

<sup>33</sup> A. Okolski, *The Lecture of Administrative Law and Polish Administrative Law in Force in the Kingdom of Poland*. Warsaw: Editorial Office of Library of Legal Utilities, 1880, p. 144.

<sup>34</sup> *Genealogical Handbook of Baltic Knighthoods. Tall Estonia, Department of Genealogical Research and Portfolio Findings*, Görlitz: G.U. Starte, 1930, p. 434.

“privilege”, b) introducing of extremely strict defined requirements regarding the obligation to provide all documentation seen as a condition sine qua non just to get access to the qualification exam itself, c) exclusion of foreigners/aliens from any possibility to enter the Institute of Corps of Engineers of Roads of Communication, located in Saint Petersburg.

The positivity that can be observed in the didactic activity of the Institute of the 1830s is the maintenance or even expansion, of the already broadly defined curriculum, which as it is, should be presumed full, and therefore, implemented at a high substantive level. This high level of overall education seems to be also confirmed by most of the results of the final exams, which to much surprise, saw the Polish group of students as obviously over-represented (as can be clearly deduced from the available detailed data for 1836) among all adepts, standing for ¼ of them.

Thus, we have several paradoxes described in this article in the didactic activity of the Institute of Corps of Engineers of Roads of Communication. These are; a) limiting general access to the learning process taking place simultaneously with an increasing need to have appropriate staff country-wide, b) as a result of the previous, maintaining or further developing in practice of the system which may be seen as an all too elitist education (which, of course, came together with keeping of an unusually high threshold of knowledge at the entrance to the Academy, also while going through the final exams at the end of the educational process), presently when the need for the moment would rather indicate introducing of “more mass” transport education, c) narrowing participation in the teaching at the Institute to the “non-alien” group of students, while at the same time appearing among the adepts of definite national overrepresentation of Polish element.

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