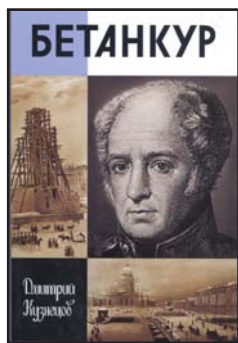


## CHRONICLE OF GENERAL BETANCOURT

**Kuznetsov, D. I. Betancourt. Moscow, Molodaya gvardia publ., 2018, 472 p. Life of remarkable people: biographic series; issue 1720. – ISBN 978-5-235-04094-6.**



### ABSTRACT

The book tells the story of life of a Russian subject from the Canary Islands, a Russian Spaniard Augustine Betancourt – a scientist, an engineer, architect, and chief director of transport of the Russian Empire. Being in the public service at the court of Alexander I for the last sixteen years of his life and being in the rank of general, occupying a ministerial post, he managed to do

a lot, carried out many large-scale and extremely important projects for the country. Thanks to him, the Corps of Railway Engineers and the Institute of the Corps of Railway Engineers were created – the first higher education institution in Russia that trained engineering personnel of the European level since 1810 and thus marked the beginning of the domestic system of engineering education and of higher transport education.

**Keywords:** transport history, engineering education, Betancourt, biography, Institute of the Corps of Railway Engineers, transport construction, architectural and construction projects, inventions.

First of all, it should be noted that the book, published in the popular and long-standing biographical series «Life of remarkable people», is not by chance preceded by a message to readers and the preface written by the rectors of two respected universities – Peter the Great St. Petersburg Polytechnic University, academician of the RAS A. I. Rudsky and Emperor Alexander I St. Petersburg State Transport University A. Yu. Panychev.

The former in his address to the readership considers with good reason Augustine de Betancourt to be the creator of the Russian system of higher engineering education. And the point is not only that the starting point for this was signing in 1809 (210 years ago) by Emperor Alexander I of the Highest Manifesto on organization of the Corps of Railway Engineers, and of the Institute headed by Lieutenant General Betancourt, but also that the «Russian Spaniard» striving for innovative practice-oriented training, proclaimed the goal «to provide Russia with engineers who, right at the exit from the institution, could be assigned to perform all the work in the Empire» (p. 6). In confirmation of unfoundedness of such promising approaches, academician Rudsky cites a case, characteristic of his university: when classes began in 1902, about half of the technical department teachers turned out to be graduates of the Institute of the Corps of Railway Engineers. That is, in other words, for almost a whole century, the brainchild of Betancourt continued to be the main «forge of personnel» for mathematical, physical-technical, construction, all kinds of applied schools and the fields of road-transport, industrial and military engineering activities.

By the way, looking ahead, it is worth remembering that it was a student of Betancourt

and a graduate of the Institute of the Corps of Railway Engineers, namely A. A. Rosenkampf, who after having received an excellent practice in the Committee for structures and hydraulic works (it was also headed by the general), was subsequently appointed director of the Moscow craft school (1837), that was created following the progress of steam engines and railways. The craft school then gave birth to future Moscow Higher Technical School n.a. N. E. Bauman, now Moscow State Technical University, known throughout the world (pp. 385–386).

Rector Alexander Panychev, the author of the second introductory text of the book, is directly related to the past and to the present of Betancourt's main brainchild, because Emperor Alexander I St. Petersburg State Transport University (although the names changed for several times over two hundred years) is the successor to the Institute of the Corps of Railway Engineers. While enumerating the merits of the founder of the university, his projects, scientific and technical ideas, our contemporaries pay tribute to Alexander I whose name now bears the educational institution and who, in fact, gave Betancourt the opportunity to creatively act for the benefit of the reforms being carried out in the country and who tried to persuade the public to share a completely trivial idea about the urgent need to train railway engineers who were able to combine the knowledge and experience of mechanics, builders, geophysicists, architects, to use the latest methods and technologies in construction of bridges, roads, canals, ports.

It is indicative that reading of the book and, naturally, its content are perceived, if we judge by the comments in the preface, in the context of not only «returning the name of Betancourt to the pantheon of Russian and world

engineering glory», but also through the tasks «to popularize engineering education» (p. 11.) since the need for it after a long fall inevitably grows – and this is for a long time. There is no need to ask whether all the narrative presented by the author – the biographical material of the Spanish period, the hero's life conflicts in his second homeland, rich factology will be able to awaken someone's interest to contribute to the book's popularization mission. However, such an «unasked» question touches upon the qualitative aspect of the content of the book, and it would be unfair to bypass it with silence.

From this point of view, it is important to know that until now the name of Augustine de Betancourt is surrounded by many riddles, and the author of the book tried to solve at least some of them, using sometimes, in fact, detective methods of investigation and conducting difficult (and sometimes, probably, the finest) archival research. The nature of the material collected by the writer-researcher to a certain extent predetermined a non-standard compositional course – a free, unrelated sequence of chapters, devoid of plot intrigue, neither a rigid chronology, nor the logics of events or cataclysms of human passions. And the chapters are super-short, on average about 1,5 pages – the arithmetic is simple: 449 pages for 310 chapters. They focus on condensed facts, laconic evaluations, a minimum of dialogues (monologues) of actors.

The stinginess of artistic means, however, is quite compensated by the abundance of event-business information regarding Betancourt's biography, as well as alternating names, facts, messages, documents, which create a fairly complete picture of the era of Alexander I and the real medium of communication, activities, personal life of the main character of the book. For all the fragmentary content of the canvas, the readers, along with the hero, observe the mores of government officials (among them in those years, the percentage of foreigners was especially large), governors, they see the usual times of governing corruption, the essence and consequences of political intrigues, and the competition for leadership positions. That is, the historical background retains a certain integrity, and it, in turn, helps to understand the conditionality of actions, deeds, the singularity of the very line of conduct of a person who being fifty years old decided to put at risk himself, his family, professional reputation in a completely foreign country.

Looking through all this, the opportunity to evaluate, explain the book plot, to believe the author's versions, undoubtedly, cannot but attract the reading public. And it is unlikely that someone will be confused by the already noted fragmentariness/fragmentation in the narrative, the absence of milestones (sections, chapters, major chapters) that are traditional

for a large work. Personally, it seems to me correct to take into account this book of Kuznetsov as a certain chronicle of the life of General Betancourt (remember Raphael Sabatini, by the way, is also a Spaniard, and his «Chronicles of Captain Blood», consisting of two books). In any case, nothing, I suppose, prevents us from using different small plots in a convenient sequence to draw a portrait of the hero in the two hundred years old environment.

Each chapter of the «chronicle» is interesting for its details, which then add up to a kind of variegated mosaic. For example, in the place where Alexander I signed the manifesto on creation of the Corps and the Institute of Railway Engineers, the criteria and assignments accompanying those steps, the conditions for admission to vacant posts, the recognition of the disastrous shortage of railway engineers are curious. The established Corps provided 193 posts, including three generals-inspectors, ten district chiefs of railways, 35 specialized directors, as well as 30 engineers of class I, 45 – of class II, and 70 – of class III (p. 104). As for the Institute, the newspaper St. Petersburg Vedomosti on September 9, 1810, reported that it was called upon to occupy a high position in the field of national education: «The appointed inspector must correspond to the rank of lieutenant-general, and the director is not lower than the major general. Professors must have a rank not lower than a major, a caretaker of workshops and a manciple should have at least the rank of captain. Students are given the rank of ensigns. Thus, the uniform of the institute will be military» (pp. 107–108).

Noteworthy detail: among the first graduation of the institute in the spring of 1813, of sixteen newly graduated railway engineers, twelve had participated in the Battle of Borodino. Alexander Stroganov was also among those, but there was no favorite student of Betancourt Sergey Stroganov, who left alma mater to the fields of the Patriotic War and passed Borodino, Smolensk, Tarutino, having reached Paris in 1815, did not return to the «railways» and chose another way – he organized the first Russian drawing school in Moscow ten years later, laid the foundation for industrial design in the country. And today, a unique educational institution founded by him is named after him: Moscow State Stroganov Academy of Design and Applied Arts (pp. 247–248).

Paying much attention to educational activities of Betancourt, of course, one cannot overshadow his primary responsibilities – to manage water and land communications, a committee for structures and hydraulic works.

Each regular business trip gave the general examples of various kinds – from real admiration of some hydraulic structures (gateways of the Mariinsky Canal) to sad conclusions about the state of most of the



engineering objects of the water system connecting the capital with the Volga River. At the same time, during inspection of twelve unfinished construction projects, Betancourt, like his high-ranking colleague, was most affected by flagrant abuse and bribery at all levels of administrative management. Their joint memorandum stated: «Only 40–50 boats could be processed for a bribe here, delaying the pass of 500–600 ships, which contributed to the profit of large speculators who skillfully raised or lowered the prices of products and fuel» (pp. 81–82).

Sixty years after arriving in Russia, Betancourt, in a letter to his brother Jos, reports on his achievements and awards (including the award of the highest state order of St. Andrew the First-Called) and names some of his projects: «I designed the cleaning machine for the port of Kronstadt, you saw its drawings when I worked on it in Paris. It turned out so great that this dredge every two minutes takes one cubic vara of soil from a depth of 20 feet. I built several wooden bridges. The last one has just been finished, and I am sending you a drawing with my pen to you with Araus. I completely updated the foundry business at the weapons factory and did many more things that I would have to enumerate for a long time» (p. 269).

A whole separate layer of professional career connected Betancourt with reconstruction of St. Petersburg. With the imperial decree imparting to him also the Committee for structures and hydraulic works, urban development began to be carried out exclusively in a comprehensive manner, taking into account not only a single architectural solution, but also all types of engineering communications. The committee approved the projects of any new residential and public buildings, supervised the construction itself, the creation of bridges, embankments and sidewalks, followed the urban water supply and sewerage. A special commission of projects and estimates assessed their economic feasibility, ranging from the construction of marinas and moorings and ending with the erection of temples and the production of steam engines, machine tools and pumps (pp. 286–287).

A few more milestones of Betancourt's biography can be described as follow.

It is time to go from dirt roads to highways. Large state roads are completely given to the department of communications, and Betancourt is the first in Russia to introduce a special tax (in fact, a road tax) on their maintenance – 25 kopecks from the auditor's soul, using his experience in Spain, where he

was for some time the chief inspector of communications.

In the autumn of 1820, when two stage-lifts set off for the first voyage on Petersburg–Moscow highway, and the object itself was recognized as outstanding not only in Russia but also in Europe, it was time to celebrate the serious success of the national engineering school, originated from the Institute of the Corps of Railway Engineers. For the first time, its scientists and students had to face the problems of building a road bed in swamps, building bridges and pipes by draining wetlands. As a result, in the «Rules for production of works» three design stages were introduced as mandatory: a general project, a normal project, an executive project, which fully corresponds to the modern stadiness when performing similar tasks (pp. 387, 389).

The construction of the Nizhny Novgorod Fair, which lasted from 1817 until the end of the hero's life (and this is a separate story torn in time, that should be considered in detail) should be considered as a very large project even in relation to the scale of General Betancourt's concerns. Curious, however, is a passing detail from the category of those that at least somehow, but may give the mood of a general-railway engineer concerning the coming era of a steam locomotive and steamboat. Foreign models of steam engines and railways stood already in the museum of the Institute (p. 247). So Betancourt, going to the construction site in Nizhny Novgorod with his family, receives an invitation to follow part of the route (to Shlisselburg) on the pyroscafe, on a ship with a steam engine – moreover, he gladly accepts the offer (pp. 369–371). Alas, a direct answer to the provocative question in the context cannot be found. No, and let's consider it to be a remaining little mystery. And, moreover, absolutely harmless.

But, having started talking about riddles, we get a reason to return to the serious plot. Many are inclined to think, the causes of the grandiose fire in front of the Moscow Kremlin in 2004, when the Manezh burned down with fire – a remarkable architectural and engineering creation of Augustine de Betancourt, are not fully resolved. With the description of this tragic event, the biographical narrative itself begins (the first three chapters, pp. 15–20). The author of the book even takes the courage to argue: the fire made the name of his hero popular once again... I shall not comment on that. Check out such a catchy version you

**Yuri V. VLADIMIROV,**  
Ph.D. ●

Information about the author:

**Vladimirov, Yuri** – Ph.D. (Philosophy), Moscow, Russia, mirtr@mail.ru.

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