

тетных направлений на предприятии является внедрение систем автоматизированного проектирования и применения новейших методов оптимизации технологических процессов для получения точности, производительности и экономичности изготовления при обеспечении высоких эксплуатационных свойств и надежности работы автомобилей.

Ключевые слова: история развития, Львовский автомобильный завод, автомобилестроение, производство автомобилей, автобусы и троллейбусы.

Bey N. O. History of development of the Lviv car plant – one of powerful producers of public-service transport in Ukraine

The history of development of the Lviv car plant – one of powerful producers of public-service transport in Ukraine was found out. It is proved that one of priority directions on an enterprise is the introduction of computer-aided and application of the newest methods of optimization of technological processes designs for the receipt of exactness, productivity and economy of making at providing of high operating properties and reliability of work of cars.

Key words: history of development, Lviv car plant, motor industry, car production, busses and trolleybuses.

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Hurinchuk S.V.

THE CAUCASUS DEPARTMENT OF THE RUSSIAN TECHNICAL SOCIETY AS THE TECHNICAL THOUGHT CENTRE OF SOUTHERN CAUCASIAN REGION

The article analyzes and summarizes the role of the Russian Technical Society's Caucasus department in spreading technical thought in the late XIXth - early XXth century in the Caucasus. Relying on experience and achievements of national science and technology author has all the grounds to assert that rapid development of native industries and national economy in the period of capitalist development in the Russian Empire led to the scientific information accumulation and the necessity of its concentration around certain centers. Under such conditions the creation of the technical periodicals of the Russian Technical Society's Caucasus department was dictated by the requirements of the Caucasus region, which acutely needed a quick and competent solution of technological problems in upbringing scientific and technical personnel.

Keywords: scientific research, technological development, technical thought, upbringing scientific and technical personnel, economic centers, industry, railway transport.

Problem statement. It is evident that the development of capitalism in the late XIXth – early XXth century in Russia caused radical qualitative changes in the economy and environment within the class structure of the society.

The period of active capitalist processes, characterized by a significant increase in the manufacturing industry, industrial energy, mining, railway and water transport as well as technological revolution made in industry and transport, caused an increase of scientific and brainpower staff.

The purpose of this article is to analyze the extent of highlighting the role of the Caucasus department of the Russian Technical Society in spreading technical thought in the Caucasus (the end of the XIXth - beginning of the XXth century).

The main research material presentation. Numerous facts leave no doubt that the main issues of social and economic development of Russia in the second half of the XIXth century which were in the focus of public-political and scientific thought, were questions those of choosing the most rational ways of economic development, the creation of large-scale capitalist industry, the construction of railway networks.

Russian technical societies played an important role in solving specified issues. There are all grounds to assert that the struggle for the country's industrial development and technical progress became an agenda for action of broad brainpower sections and the most advanced industrial bourgeoisie, which were joined in a variety of public organizations in order to discuss and solve important scientific, economic and technical issues, to carry out numerous collaborative studies. It is remarkable that scientific societies dealt with public initiative development, occupy a significant place among the forms of science organization of that time.

Especially it is necessary to point out that provincial scientific societies having aroused in the second half of the XIXth century under the absence of scientific research institutions were a sort of "local academies of sciences".

Our appeal to the activity of scientific societies, the rethinking of their place and social role in the history of science organization provides not only scientific and practical interest, but also has a great cognitive value. It is important to emphasize that the study of forms of science organization and its development trends is one of the most topical problems in the history of Russian engineering.

To our conviction, technical societies play a very important part among the forms of scientific research organizations. They played a significant role in the solution of topical scientific and technical problems, in the realization of advanced designing and technological solutions at the end of the XIXth, the beginning of the XXth century.

D.I. Mendelieiev wrote about their role and significance: "If scientific researches in Russia undertaken by Russians in their country, began to wonder the scientists of the whole world, they are sure to have been promoted by the development and establishment of scientific societies in our country" [1].

The development of industry in Russia in the post-reform period, fundamental scientific researches and discoveries of Russian scientists promoted the rapid growth of engineering sciences and aroused great interest for technology.

This led to the revitalization of scientific societies and to the emergence of a new type of similar organizations - STS (scientific technical societies).

History testifies that the Russian Technical Society (RTS) was the first and most solid organization of the technical brainpower representatives and the industrial bourgeoisie. It was organized by a group of professors and engineers of St. Petersburg in 1866, and worked until June 1929.

The main tasks of the society's activity were the promotion of scientific and technological achievements, the assistance for industry and transport development, as well as the development of technical education in Russia, the organization and carrying out of scientific researches, and discussions on a number of scientific, technical and industrial-economic issues. The Society regularly conducted meetings, delivered public lectures highlighting actual technical problems, organized exhibitions of in-

dustrial products, carried out the researches at industrial enterprises, created libraries and museums [2].

Outstanding professors and advanced in their outlook engineers were a specific share of the RTS. This determined the progressive nature of the society activity. The RTS was administratively subject to none of the government agencies, and in its activity it was guided by the charter approved in 1866. It defined the objectives and structure of the society, its members. Following the model of the RTS charter, which was the biggest team of experts in all fields of technology not only in Russia but also in Europe, the charters of the majority of scientific and technical societies in Russia emerged later were built [3].

It must be noted that at the initial stage of its activity the RTS strived to establish a link with the industrial enterprises of St. Petersburg, Moscow and other major economic centers of the country. It was necessary to increase the number of the society members, the preparation of basis before opening company's departments in other cities, the establishment of direct contacts between the science and industry representatives.

This is evidenced by an entry in the first issue of the "RTS's memoirs" for 1867: The Society is established not only for the exchange of views, not only for "Technical talks", but also for a direct assistance to industry, ... for industry's use; our industry is located in various parts of Russia, not only in Petersburg where it is least of all, and therefore the society needs some bodies for all activities proposed by the Society, and the Departments are such bodies. The existence of Russian Technical Society is unthinkable without them" [4].

It is not difficult to make sure that the RTS which had spread its activities across the country as the result of the government members' participation in its work and of some assistance from the state treasury, of implementation of various rights and privileges, acquired an officious value.

The RTS's activity was extremely successful and lots of its branches have been created since 1868 in the periphery. Opening these departments, RTS tried to assist in the local industry development and scientific thought, as well as in the rational use of natural resources. Indeed, in the periphery of the country, where there were no relevant institutions and organizations, it was difficult to develop scientific and technical issues individually and sometimes impossible.

RTS departments played a positive role in the economic development of areas where they existed [5]. We consider the fact that the first such branch appeared in the Caucasus in Tiflis to be significant. Technical talks of military engineers in the library of the Caucasus military district preceded the society's formation.

M. M. Hersevanov who was one of the 11 RTS founders became the organizer of the Caucasus department of the Russian Technical Society. During the visit to Tiflis in autumn 1866, he expressed the idea to create RTS's department there [6-7]. As analysis of literary sources shows that while staying in the Caucasus M. M. Hersevanov was the organizer and permanent chairman of the Caucasus RTS's department.

It should also be taken into account that M. M. Hersevanov drew up the department's program, having been read at the first meeting on October 12, 1868.

Later, the same program was published in the "Caucasian calendar" [8]. This program pointed to the Society's actions as for spreading craft and technical education, the oil business, the researches on building materials in the Caucasus, the solution of issues related to the provision of Tiflis's urban amenities, etc.

Despite the government officials' resistance M. M. Hersevanov managed to attract advanced circles of the technical brainpower of that time to the society's activity. Under his chairmanship the Caucasus department of RTS analyzed technical and economic problems for the Caucasus region. The department considered and substantiated the formation of the means of communication, navigation drafts on the Caucasus rivers, as well as local lands irrigation projects.

The Caucasus department of RTS paid much attention to the Black Sea and Caspian ports construction projects, rationalization of the construction business, the issues on extraction and utilizing of construction materials, training of technical personnel.

M. M. Hersevanov struggled for promotion and development of technical knowledge. At the beginning of his activity as the chairman of the Caucasus department of RTS he proposed to establish special training courses for technical staff at real gymnasiums of the Caucasus region [9].

Tiflis City railway technical vocational school was organized under his leadership. Preparatory courses at vocational schools were initiated with his participating. The talented scientist successfully combined theoretical knowledge with practice in these institutions. These initiatives became the basis for the development of technical education and staff training for transport and industry of the Caucasus.

Information on the directions of the RTS Caucasus department activity is mainly found in M. M. Hersevanov's "Report on the ten-year activity of the RTS's Caucasus department of the Imperial Russian Technical Society" [10]. The report points out that the Caucasus department of RTS began its activity with limited funds and in this way involving its members funds it carried out its activity for the first two years. The department had no its own premises and used premises given by the Society member P. Ph. Rerberh in the library building of the District Engineering Department. Meetings of the RTS Caucasus department had been held in the hall of Tyflis provincial administration since autumn 1870.

To a great extent the Caucasus department of the RTS (thereafter – CDRTS) was engaged in irrigation of the Caucasus region. The engineer-colonel D. I. Romanov was engaged to the solution of this problem. Oil production was undoubtedly one of the most important and profitable industrial productions in the Caucasus (up to 140.00 rubles per year). Because of their lack wood was replaced by oil and it was considered to be economically justified. The installation of the equipment for oil refinement was an important problem requiring quick solution.

From the CDRTS's activity analysis it becomes clear that the Society was engaged in the pay off system destruction on the oil wells development at Absheron peninsula that created a new system of public revenues.

Finally, as an argument, we will show, that for example 21,2% of all oil products were exported from Batumi in 1888. Lots of countries in Europe, Asia and Africa turned into sales markets for Baku oil industry. Indeed, in 1890 148 oil refineries of Baku produced 68 million pounds of kerosene and 4,5 million pounds of lubricating oils [11].

It should be noted that the CDRTS was strongly engaged in the solution of urgent problems in studying local construction materials on which depended the development of industry, the construction of roads, means of communication and comfortable premises.

The issue on the Caucasus construction materials was a common subject for the department's action. Taking into account the fact that in the second half of the XIXth century the Caucasus region industry was not developed, construction machinery should have been primarily developed. Specifically all needed for the industry development, railroads and other means of communication construction depended on region's industry.

To the above said it should be added that in his annual reports M. M. Hersevanov repeatedly emphasized on arranging construction process using local materials: (brea, oil residues, asphalt for road covering and pavements construction), replacement of timber by iron where it was possible (in the construction of windows, floors, stairs, bridges), and others.

There was the need to use high-quality roofing material schist, available in abundance among the clay slates which were a significant part of the Main Caucasus Range. Unlike the roofs made of Russian or Belgian iron, schist is not heated and requires no repair for a few decades.

Extremely lots attention was paid by Caucasus department of the RTS to the replacement of a short life Caucasus timber, which was used in the construction, logically offering to replace it with iron.

Regarding the CDRTS activities, an important object of its activity was formation and development of craft and technical education. Ultimately, as an argument, let us show that craftwork department was organized in 1869 at Nikolaiev Avlabar school by the CDRTS on their own. It worked only a year.

On January 10, 1871 inspector M. A. Von-der-None opened a workshop for children in the village Kucky. Those wishing to study in the workshop were so many that there was a need for a more spacious room (for this purpose general Chaplytsia's house was rented), where the school remained until 1875.

Let us pay attention to the fact that the level of public education in the Caucasus during that period was the lowest in Russia. According to many experts only primary education system was created in the region. It was started the development of women's education and teaching children from mountainous villages.

Let's also note that on October 6, 1872 the mayor of Tyflis, prince Tumanov, during the CDRTS meeting proposed to start a craft school, to finance it form the city's budget and to call it Mykhailivska.

The formation of the Mykhailivska Railway Technical school in Tyflis lasted for almost 10 years. The school was aimed at giving graduates general education and

equipping them with technical knowledge. The graduates had the right to enter any technical universities, including university.

Of course this is not by accident that on November 4, 1901 under the CDRTS initiative there were evening and Sunday courses for adult craftsmen and proficient opened in the Tyflis urban railway city school building.

As mentioned above, the starting of the courses became possible with the complicity and support of the Department of Public Education and heads of government institutions: Prince S. Holitsyn, the Minister of Finance S. Yu. Witte, the head of the Transcaucasian railway L. Ye. Vedeneiev and the head of the Railway Technical school Railway School M. I. Semenov. Such courses were to promote education of adult humans and gave them knowledge on their chosen profession.

Although factory masters to a certain extent had already had some skills for the production items processing, but only in rare cases they had basic knowledge for individual “enhancing” of their professional skills.

We want to draw attention to the fact that persons who had passed a full-year course of study and had shown satisfactory academic performance during tests received a training certificate on behalf of CDRTS [12].

Thus, we can confidently assert that the activities of the Caucasus department of the RTS were thorough and far-sighted. Due to informative scientific researches in the field of engineering, railway construction, urban development and implementation of science, the Society occupied a worthy place among the departments of the Russian Technical Society.

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Гурінчук С.В. Кавказьке відділення Російського Технічного Товариства як осередок технічної думки південного Кавказького краю

У статті проаналізовано та узагальнено роль Кавказького відділення Російського технічного товариства у поширенні технічної думки наприкінці XIX - на початку XX століття на Кавказі. Спираючись на досвід і надбання вітчизняної науки і техніки автор статті має підстави стверджувати, що швидкі темпи розвитку вітчизняних галузей промисловості та народного господарства у період розвитку капіталізму в Російській імперії призвели до накопичення наукової інформації і необхідності її концентрації навколо певних осередків. За таких умов створення технічної періодики Кавказького відділення РТТ диктувалося потребами Кавказького краю, який відчував гостру потребу у швидкому та грамотному рішенні технологічних проблем і у вихованні науково-технічних кадрів.

Ключові слова: наукові дослідження, технологічний розвиток, технічна думка, виховання науково-технічних кадрів, економічні центри, індустрія, залізничний транспорт.

Гуринчук С.В. Кавказское отделение Российского Технического Общества как центр технической мысли южного Кавказского края.

В статье проанализирована и обобщена роль Кавказского отделения Русского технического общества в распространении технической мысли в конце XIX - начале XX века на Кавказе. Опираясь на опыт и достижения отечественной науки и техники автор статьи имеет основания утверждать, что быстрые темпы развития отечественных отраслей промышленности и народного хозяйства в период развития капитализма в Российской империи привели к накоплению научной информации и необходимости ее концентрации вокруг определенных ячеек. При таких условиях создание технической периодики Кавказского отделения РТО диктовалось потребностями Кавказского края, который остро нуждался в быстром и грамотном решении технологических проблем и в воспитании научно-технических кадров.

Ключевые слова: научные исследования, технологическое развитие, техническая мысль, воспитание научно-технических кадров, экономические центры, индустрия, железнодорожный транспорт.