1842 map of the waterways in Western Russia from Wittenheim's book

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The Oginski Canal.

By Royal Councillor Philipp Loewe, Vienna.

For the first time since the flames of the Great War engulfed all of Europe, and especially since the allied Austro-Hungarian and German armies began their triumphant march in Russia, the name of an artificial waterway, long forgotten, was recently mentioned in public pronouncements by the relevant general staffs. Who, apart from specialists in Western Europe, still knew of that small strip of land in Lithuania, which still exists today as the Oginski Canal, but which once represented a phenomenon in terms of transportation?

A few words in the dictionary, an inconspicuous line on the map between rivers, railways, and roads—that is essentially all that was known about the once world-famous canal until very recently! Even during Napoleon's great Russian winter campaign, the canal received hardly any mention. Even during the fighting of the Polish uprisings, the canal was only mentioned briefly. Strangely, it received little attention. Only now, after more than a century, have events on the northern front brought it back into focus. Yet there was a time when the Oginski Canal was spoken of in all circles that had any understanding of waterways and transportation as an

undertaking unparalleled anywhere in the world. This canal represented an idea that, not only for the time of its creation but also today, in this century of immense dimensions, must be considered gigantic in every respect. This stretch of waterway, almost in the heart of Russia, was intended to connect two seas widely separated by the Russian Empire, to open a waterway stretching from the Black Sea to the Baltic Sea. More than 2,500 kilometres of waterway were to be used to connect these two European endpoints, to open up the right route for internal and external trade, and to bring prosperity to a region virtually cut off from all other means of transport. And this audacious plan owes its existence to a single man: a Polish patriot who sacrificed a large part of his fortune for the idea, the Grand Hetman of Lithuania, Prince Michael Kasimir Oginski.

To fully grasp the significance of this project for inland navigation, undertaken after numerous setbacks, and to appreciate its importance in the context of the time, we must travel back a century and a half and first consider the transport conditions of that era before delving into the practicalities of the project and then discussing the canal's fate. Around the mid-18th century, those regions of the former Grand Duchy of Lithuania that today comprise the Minsk Governorate and partly include the famous Rokitno Marshes had only rudimentary contact with the rest of Europe. Communication was extremely limited. Two routes led northeast: a reasonably well-maintained road that led via Brest-Litovsk to Warsaw and from there to the Bay of Gdańsk, while the other led via Minsk to Vilnius and from there via Kaunas, also to the Baltic Sea. The first route was somewhat aided by the waterway on the Vistula River, while the latter relied on only a small section of the Neman River. It must be noted, however, that the two roads did not begin directly at the edge of the swamp, and therefore could not be accessed from its center, Pinsk. This circumstance is of paramount importance for the development of the canal idea. Beyond this town, in a semicircle from southeast to northwest, there were only a few minor swamp tracks that facilitated traffic, but these were never usable for more than five or six months of the year. The soil, painstakingly wrested from the swamp by the Lithuanians and Belarusians even then, was exceptionally fertile and rivalled southeastern Poland in producing large quantities of grain, which was always highly sought after in northeastern Europe. However, transporting the grain from the production sites to the usable roads was extremely difficult. Partly on local wagons, partly on horses, the grain had to be brought to the transport points, with some of the load being lost each time due to the poor condition of the roads and the associated hardships. Poland and Lithuania were then the breadbaskets of Holland and its neighbouring countries. The goods passed through Danzig, where they were loaded onto foreign ships. The scale of Poland's grain production is evident from a letter in the Augsburg Ordinary Post Newspaper of January 1, 1773, when Prussia seized the port of Danzig. It states: "While previously two million people in the united Netherlands lived off Polish grain, Poland received from the Dutch annually, in cash or goods, the equivalent of sixteen million Metier of grain, calculated according to the Austrian measure." Poland thus received both gold and goods. But neither of these reached the Pinsk region. Everything remained in Warsaw, Vilna, or their surrounding areas. As a result, these cities flourished, while eastern Lithuania, with its fertile soil, remained deeply impoverished.

Poland received both gold and goods. That these conditions were anything but comforting was something Poland's leading men had long recognized. But despite

repeatedly raising the issue with the government, they were unable to secure any relief through the expansion of roads or waterways. There was no money available, and besides, the government had other matters to attend to. It was then that the aforementioned Prince Oginski decided to take matters into his own hands. He brought in some engineers from Holland, discussed the project with them, had the question of costs addressed, and immediately set to work. In 1764, the first sod was turned; the canal construction began at Oginski's expense. Initially, this noble patriot's goal was simply to connect the two rivers, the Szcsara and the Jassiolda, thus creating a waterway across the country from south to north. However, during the first few years of construction, Oginski's plan expanded enormously. And the more he engaged with the matter, the more his idea expanded, until it was fully developed: The canal was intended to inspire further similar projects, ultimately serving not only to connect two parts of Poland; it was primarily meant to be the hub of a trade route stretching from north to south, from the Baltic to the Black Sea, encompassing all the goods both countries imported and exported. According to Oginski, this means was not only capable of bringing prosperity, indeed wealth, to the country, but it was also intended to provide Poland with the firm foundation necessary to stand tall in the heart of the European continent. This was the Polish nobleman's dream. Has it been realized? We will not hesitate long before answering. First, however, we must consider the location of the canal and those objects that were particularly crucial for the realization of Oginski's vision. Our sketch may illustrate this.

In the implementation of the expanded canal plan, five rivers—three larger and two smaller—and one lake were considered. Let us first turn to the main rivers and begin with the Neman, insofar as it is relevant to our discussion. What the Vistula is to Poland, the Neman is to Lithuania. It rises in the wooded district near the Pinsk Marshes, 45 km south of Minsk. The river only becomes navigable to a limited extent a few kilometres downstream. In the first part of its course, it flows alongside a 260-square-kilometre forest area, which fills the southern part of the Oshmiana district (Vilna Governorate) and, until recently, constituted the least developed part of Lithuania. On its left bank lie the fertile grain fields of the Sluk and Novgrudok districts. The width of the Neman in this upper section is between 80 and 100 metres. The river widens in places, passes the fortress of Kaunas, and after receiving tributaries on both sides, empties into the Baltic Sea. It is 865 km long, and its drainage basin covers 1500 km². Of its left-bank tributaries, the Szcsara is the most significant and important. It is 215 km long, rises north of the now frequently mentioned railway station of Baranovichi, initially flows south, and in a wide arc crosses the railway and the Brest-Moscow highway twice. Without a discernible watershed, it flows through the forest and marshland of the Pripyat's northern tributaries and passes within four kilometres of Lake Vygonovskoye before emptying into the Neman River between Mosty and Roshanke.

The Dnieper, after the Volga and the Danube the most important and largest river in Europe, rises south of the Valdai Hills, west of the town of Sychavka, 60 km southeast of Rtsev on the Volga. Its source is located at an elevation of 230 m above sea level. The Dnieper is 2,146 km long, and its drainage basin covers 526,956 km². Its significance lies primarily in the fact that its right (western) tributaries extend far westward into the Polish-Lithuanian Commonwealth, thus approaching the Vistula and Neman basins, and then north of the Daugava River, allowing it to be connected

to this river by a canal system. However, the considerable importance the Dnieper could have for shipping between the Baltic Sea and Pontus is significantly diminished by the difficulties of its middle reaches, with numerous rapids, and the shallowness of its mouth.

Near Kyiv, the river, already 750 metres wide, changes direction from south to southeast; from there, it follows the Volhynian-Podolian granite plateau descending towards it and, beyond Yekaterinoslav, displays the famous waterfalls or porogens (porogen thresholds), as each rocky outcrop the river has to overcome forms a cataract. Due to these rocky formations, the Dnieper is not navigable year-round, a fact made all the more noticeable by the fact that no other waterway from the Black Sea leads so deep into the interior of Russia. However, some improvements have been made in the Dnieper region over the last two decades.

The Pripyat is the large right-bank tributary of the Dnieper. It is 585 km long. Its source lies in a marshy lowland in the Volodymyr-Volynsk district. Below Mozyr, it flows into the Dnieper. Its source lies at an altitude of 145 meters above sea level, its mouth at the Dnieper at 100 metres. This slight gradient (11 cm per kilometre) already explains the gradual flow of its waters, the countless meanders, and the seepage and seepage of the riverbanks. Throughout its entire basin, we find a swamp forest of immense size. The Minsk and Volhynia governorates are covered by forest on nearly a quarter of their surface area. This is the Poljesje, the forested area (liess Forest), also known as the Rokitno Swamps, which covers an area of approximately 9,000 km².

From the left bank, the Pripyat River receives the Iassiolda River just downstream from Pinsk. The Iassiolda originates in the marsh northeast of Pryshov, crosses the Brest-Minsk railway line, and flows through Lake Sporoger. It empties into the Pripyat near Kachanovichi.

These are the rivers that formed the basis of the Oginsky Canal concept. We will discuss Lake Vygonovzer shortly. Keeping the river system in mind, we can trace the development and completion of the canal. The waterway begins about 20 kilometers north of Pinsk, where the Iassiolda has a slightly shallower bank. It continues straight north for five kilometers, then turns west, then back east, forming a large bend. From there, it runs north for about 30 kilometers before making a slight northeast turn to Lake Vygonovzer. This lake, of which there are many in the surrounding marshland, covers approximately 10 square kilometers and borders a fertile area in its northwestern part. It was therefore a wise move by the canal builder to include this body of water in his canal project, as it would allow him to transport the grain and timber for export more easily westward on larger ships. As mentioned earlier, the Szcsara River flows four kilometers along the northern edge of the aforementioned lake. It was precisely these four kilometers that were used to widen the lake to the north, thus giving the canal a length of 55 kilometers. Its northern continuation was formed by the Szcsara River, whose waters, as mentioned, are absorbed by the Neman River and carried to the Baltic Sea. As is evident, this canal is not particularly extensive. However, its importance as a link between the southernmost and northernmost regions was all the greater. Its significance only becomes apparent in the context of the extensive river system of Lithuania, Poland, and southern Russia. The main focus, of course, lies on the Neman and the Dnieper. The former was

designed to handle the transport of grain and timber and, as we will hear later, fulfilled this task to a certain extent. The Dnieper, however, already had a greater role to play. Its purpose was to facilitate the exchange of products from the interior and the south. The main goods (tar, timber from the Volhynian forests, as well as grain, wool, hemp, wax, and honey) from the eastern neighboring provinces were transported southwards, while salt and other products from the Black Sea region were carried upstream. The cities of Kyiv and Kremenchuk still serve as important river ports and transshipment points for this trade. On the Szcsara River, Sionine is the most important location.

The canal construction, which began simultaneously above Lake Vygonovskoye on the Szcsara and the Iassiolda Rivers, was by no means carried out according to strict scientific principles. The hydraulic engineers of the time were content with simply planning and excavating the canal, which has a depth of 1.5 to 2.5 meters, but paid no attention to the geological composition of the soil, which they had not investigated at all. Only a century later did it become clear how necessary it would have been to delve deeper into the matter before undertaking the work. In 1873, a scientific expedition under Major General Zelinsky from St. Petersburg was dispatched to the Pripyat River to investigate how the area could be made more productive through drainage and canalization.

By drilling 140 boreholes and 240 test shafts, it was determined that the large marshland encompassing the Jassiolda and Szcsara rivers belongs to the diluvium and alluvium formations, while the Eocene formation is bordered by the Pripyat and Horyn rivers (which have been frequently mentioned recently). These findings were strongly reflected in the regulation and deepening of the rivers and the systematic distribution of the water. The technical directors of the Oginski Canal did not concern themselves with such details. They focused solely on the physical aspects of their task. Work on the canal proceeded continuously for five years. Around 1770, however, the work came to a standstill. National misfortune was already looming for Poland, and the thought of creating a project in such troubled times—a project that might not benefit one's own people—receded into the background. After the First Partition of Poland, the patriots rallied once more, and Prince Oginski, who had previously provided the funds for the construction, wanted to see his project completed. Work resumed in 1780. Twelve million Polish guilders (7,200,000 crowns) flowed from Oginski's private purse.

However, the Prince did not live to see his project finished. General Oginski died in 1799. The canal, which, along with that part of Lithuania, came under Russian rule, was opened to traffic at the beginning of the 19th century. Prince Oginski did, however, find some satisfaction. His idea bore fruit in another direction. Construction began on the so-called Imperial Canal, officially named the Djeprowsko-bugski. The Pina River connects a series of lakes on the upper Pripyat River with the Muchawiec, a tributary of the Bug. By combining all these waterways, a single waterway, the aforementioned canal, was created. It is 80 km long and facilitates important trade with the Vistula River; it was completed in 1775. A second consequence of the canal system conceived by Prince Oginsky was the construction of the Berezina Canal. This connects Lake Plavia with Lake Bereshtya.

Prince Oginsky's great hope of establishing a permanent transport route between south and east was not fulfilled. For a few years after the completion of the Oginsky Canal, its builder's vision seemed to be taking shape. Goods began to be transported by small ships to and from the Neman River. The Pripyat-Dnieper connection to the Black Sea was also used to some extent. However, traffic soon began to slow down. Since, as has been emphasized, scientific principles were not observed during the canal's construction, and consequently the spring and autumn waters rendered it virtually unnavigable, it saw very little use. Gradually, it was completely neglected, as the construction of highways and the later expansion of railways almost entirely eliminated its use. For nearly a century, shipping on the Oginsky Canal carried nothing but cargoes of timber destined for the Neman River. The world seemed to have forgotten the "great" canal—and with it, the grand idea of its builder. Then, three or four years ago, its name suddenly reappeared in some Russian newspapers. It was reported that the government was undertaking restoration work on the canal and intended to use it for greater traffic. And just as suddenly, these reports ceased. This, as it later turned out, was done on higher orders. The canal was being used to transport military supplies, a fact that became very evident during the recent fighting in the east. It is safe to assume that the Germans were aware of the military preparations at the Oginski Canal. The extent to which they drew conclusions from this and what role the Oginski Canal plays in their current strategy cannot be discussed here. However, the fact that this waterway has recently been used for transport purposes and made accessible for inland navigation suggests that, with some necessary, scientifically based regulation work, the long-neglected but now once again navigable Oginski Canal could still provide significant services in economic and military terms. Then it could be demonstrated once again that a great idea like that of Prince Oginski never loses its relevance.