The Chaotic Saga of Oil in Galicia

Jérôme Segal and Renaud Lavergne
Translated by Janice M. Sellers

On this long night of 31 July 1853, Dr. Zaorksi, a surgeon in Lemberg, is embarking on a world first. The act itself is very risky for the time, since it is an ileocecal removal of the appendix, *i.e.*, an appendectomy. But this is not where the importance of the event lies. At the same moment, outside, at the foot of the Piarist hospital where a patient's life is being risked, a man contemplates his work with a smile. He is a Polish chemist, Ignacy Łukasiewicz (1822–1882), employed in a pharmacy downtown, who studied at Jagiellonian University in Kraków. He sees the light escaping through the window of the operating room. The light is beautiful, very white, and above all stable: For the first time an operation is lit by kerosene lamps, thanks to Łukasiewicz's invention. This is certainly not the first oil lamp in history, but Łukasiewicz, aided by his colleague Jan Zeh, has improved the mechanism and particularly the distillation process, yielding a pure and odorless product which now is safe. There is virtually no risk of explosion. Previously, the flickering and volatile light of candles and whale oil lamps could be dangerous. In contrast, the Łukasiewicz lamp provides reliable illumination, comparable to a 25-watt bulb as we know them today.

Lemberg, where this operation unfolded, was the capital of Galicia (5.9 million inhabitants in the 1869 census), the most populous province of the Austrian Empire (20.9 million people in all). It was also the most out of the way, in the northeast. With his invention, which definitively improved on previous methods, Łukasiewicz contributed to taking this backward region into the black gold revolution. The revolution created a thriving network of refineries, of which the first in the world was in 1856 in Ulaszowice (near Jasło, today in southeastern Poland), five years before that of Oil Creek, Pennsylvania.

But at the time of this event, no one, in Galicia or elsewhere, could truly have predicted the future of the oil industry. This raw material was then used only as a novelty and was not being studied systematically. It had always been common here and there, in the meadows and marshes of the region of Boryslav and Drohobycz, 70 km southwest of Lemberg, at the foot of the Carpathians. It appeared in puddles on the surface during heavy rains.

In this poor agricultural region, where famine was common until the late nineteenth century, the oil was collected by hand with horsehair brushes. Horsehair held the sticky liquid, which was then drained into buckets. This task often fell to destitute Jews, who would go to the markets to sell the fruit of their labor, the buckets hanging from a piece of wood across their backs. At the markets, farmers bought the oil to lubricate their wagon axles, or to treat their livestock's skin conditions. Medicinal benefits were indeed attributed to oil. In 1852 two Jewish merchants from Drohobycz, Abraham Schreiner and Leib Stiermann, visited the owner of the pharmacy "Under the Gold Star", where Łukasiewicz and Zeh worked, to analyze oil collected on the spot, considering market possibilities. The pharmacist noted with interest this product, as he imported for the price of Italian gold a potion with a similar smell to treat skin diseases and intestinal worms.

Such old-fashioned applications soon became anecdotal, because after the hospital in Lemberg, the entire city of Prague adopted oil lights. The Łukasiewicz lamp received an award in 1854 at the Exhibition of

Panoramic view of Boryslav showing many oil derricks (from Polish National Archives)

Poor Jew carrying oil in buckets
(from private collection of Claudia Erdheim)

Products for German Industry, which took place at the Winter Palace in Munich. The railroads of Emperor Franz Josef then were interested in this technique to replace candles of wicks surrounded by beef tallow. By the end of 1858, the Vienna Nordbahnhof became the first train station in the world lit by oil, followed quickly by all stations on the line connecting the capital of the empire to the coal mines of Silesia.

Oil regions of Galicia were being developed, but somewhat chaotically. The smallest plot of land was suddenly seen as a source of potential wealth, and the minimum distance allowed between two wells was only 19 meters. Farmers tried to take advantage of this by dividing their already tiny pieces of land (less than one hectare on average) into multiple leases to increase their rental income.

The time of an organized industry was still far away: A hoe, a ladder, a rope, a winch were enough to start a well. Men dug with the strength of their arms, and as soon as oil gushed, a neighbor was digging his own well close by. This initial anarchy was the result of the political situation in the province, dominated entirely by wealthy Polish landowners, to whom the government of Vienna had granted genuine autonomy. No other province of the empire had such freedom; that was the price Vienna paid to ensure parliamentary support in state affairs from this important group of Polish deputies. It was based on this principle of noninterference in Galician affairs that the Sejm rejected in 1862 Vienna's attempt to take control of the oil-rich land and organize leases.

Alongside the Poles in Galicia were Ruthenian peasants (future Ukrainians), the majority in numbers, but also Jews, who were similarly getting into this activity as the heads of small associations. Galicia was an important Jewish area, since it was where 68% of the Jews of the Empire resided in the mid-19th century.

Of all the surrounding countryside, Boryslav, the epicenter of oil, then saw an influx of groups of farmers come to sell their labor, often by the day, to gain additional income. This quiet agricultural village which had only 500 inhabitants in 1860—it would be 12,000 in 1898—gradually changed. The landscape was riddled with wells; there could be up to 40 operators on 6,000 m^2! The soil became unstable, sometimes collapsing. The rapid and concomitant development of ozokerite mines (a mineral wax in the family of hydrocarbons from which candles are made) greatly increased these land shifts. Black gold claims its first victims when land collapses, or when the pressure released by drilling causes explosions. On a research trip in Galicia in 1878, the French geographer Élisée Reclus described Boryslav in his *New Universal Geography* as a "hive", "a chaos of houses, shacks, and bizarre scaffolding" where "a cosmopolitan population" swarmed, living "in the maze of paths and huts." In 1865, Galicia already had more than 4,000 wells. Two hundred of them went up in smoke in 1874 in a fire that caused several deaths.

Faced with this lawless situation unfit for any industry consolidation, a new law on operating rights was adopted in 1884. It gave the central government in Vienna the right to inspect lease terms and working conditions. This opened the door for more structured entrepreneurship, and the first foreign investors flocked in. Other oil-producing regions of the world saw the same type of industrial development at the same time, in Pennsylvania, Russia, and Romania.

The new law followed the visit of Emperor Franz Joseph I to Galicia in 1880, his first in the province since 1851. He was reputed to be more focused on military and economic matters, with little interest in this area. His presence, which several companies acknowledged by decorating their rigs and installations, therefore demonstrated a growing awareness of the challenge that oil now represented, while seven years earlier at the international exhibition in Vienna the black

gold of Galicia was barely mentioned in the presentation materials.

The imperial visit coincided with important technical innovations, in particular the introduction of a system of percussion steam drilling, an accomplishment obviously without comparison to the drilling by hand done previously. This technique was introduced by Stanisław Szczepanowski, an engineer and a Polish patriot, who believed that only economic development could enable advancement of the Polish nation. From this perspective, oil was essential in his eyes. Concerned about the well-being of the workers, he provided them with insurance, a hospital, and a library. In 1881, Szczepanowski maintained a very large deposit near Boryslav, a hundred meters underground, which led him to invest in a refinery. He was also aware of the absolute necessity, in order to reduce waste, of providing large storage tanks, pipelines, and transportation worthy of the name.

The Canadian engineer William Henry MacGarvey brought him, beginning in 1890, his mastery of deep drilling—the wells could reach 1,000 meters underground! With English businessman John Simeon Bergheim, in 1895 MacGarvey founded the company Galizische Karpathen-Petroleum AG. It employed 2,400 people in the early twentieth century. Other Canadian manufacturers followed suit. The internationalization of the sector had begun, although it was still large groups alongside a multitude of very small concerns.

Industry growth was the pride of the province. This time, when the Galician international exhibition was held in Lemberg in 1894, a model of the entire operation of mineral wax and oil was built, and a great attraction was that it was accessible by cable car! But this expansion had a less pleasant aspect. Working conditions remained precarious and dangerous. Refineries were poorly ventilated, the air was often contaminated by the distillation vapors, and many workers slept on benches in crowded taverns where alcoholism was rampant, or sometimes in building cellars that had been converted to unsanitary dormitories. Numerous other people slept outside. Company housing was very rare. The Viennese writer and fierce pamphleteer Karl Kraus reported in October 1899 in his newspaper, *Le Flambeau*, that "hundreds of Jewish children are dead in Boryslav of typhus and hunger .... In the small towns of Galicia the misery of the Jewish proletariat defies description ...."

The danger associated with mining was also permanent, for men and for the environment. On 30 August 1890 in a wax mine owned by the French company extracting mineral wax and oil, at Wolanka near Boryslav, a steam engine exploded. The results of this "misfortune", according to the newspaper *Liechtensteiner Volksblatt*, were 80 deaths. An uncontrolled burst of oil at Schodnica in 1895, on the forested hills of Boryslav, seriously polluted the Stryj River. The well in question was not yet managed by a small undercapitalized company; it belonged to an international bank, the Anglo-Österreichische Bank. Élisée Reclus, a few years earlier, had already spotted this environmental impact: "All streams are covered with an iridescent film, and sometimes, especially during hot summer days, the atmosphere is filled with an odor so pervasive that some people experience actual symptoms of poisoning."

July 1908 issue of *Die Neue Zeitung* ("The New Newspaper") with front-page article about the large oil fire in Boryslav

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Nr. 185 Wien, Dienstag, den 7. Juli Jahrgang 1908

Der Riesenbrand in Borvslaw.

(Text hiezu im Innern des Blattes.)

In spite of the health and social issues, the oil workers in Galicia were fairly passive, while neighboring Russia experienced its first revolutionary stirrings. As shown by historian Alison Frank, class solidarity hardly meant anything and propaganda missions failed. The fact that the majority of workers were farmers selling their labor by the day before returning to their villages limited their class consciousness. Jews occupied very different functions in the industry and were driven by a group solidarity. Finally, Poles were usually employed as skilled workers, were better paid, and were disinclined to join up with the Ruthenian peasants. Before the war, the Boryslav basin knew only one significant strike, in 1900, and that was only to protest a limit on the sale of alcohol.

The number of oil companies grew from 100 to 300 between 1895 and 1909, and production soared. It reached a peak in 1909, when Galicia was third in the world in oil production, after the United States and Russia. From its soil every year flowed 1.9 million tonnes, or 5% of the world total, but still 10 times less than the United States. The latter had just entered the era of the automobile and the internal combustion engine, which would become the main market for oil after lighting.

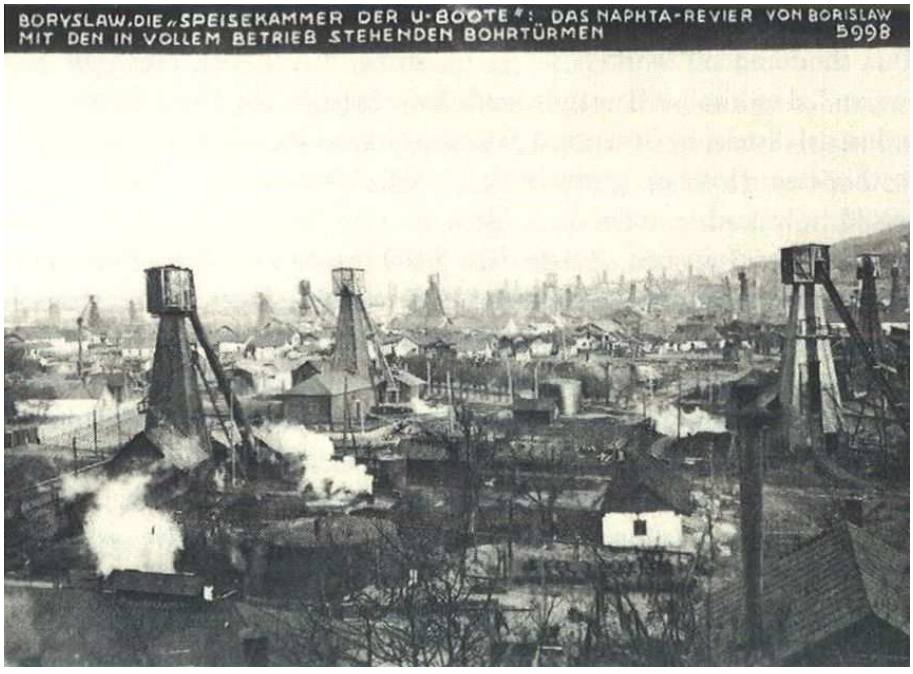
On the initiative of Vienna, the large state refinery in Drohobycz opened in 1910. But it was almost too late, because Galician oil had already experienced its finest hour. In the years preceding the war, production started to decline. Overexploited, the subsoil shows signs of depletion. The vagaries of conflict did not help. Due to the results of battles, Galicia and its oil fields passed into the hands of the Russians in 1914. Production was permanently disrupted. The skilled workforce had been drafted and was committed to leaving. This was partly because of galloping inflation, which made food unaffordably expensive—between July 1914 and April 1918, the price of flour increased by 5,600%, 4,200% for rye bread—but also, for Jews, because of anti-Semitic violence, initiated by the Russians. To consolidate their power in the region, they told Ukrainians that, while they were fighting the Austrian gendarmes, they could kill Jews at the same time.

As a land of the poor, Galicia had long been a land of emigration: Between 1880 and 1914, no fewer than 800,000 people, mostly Jewish victims of anti-Semitism, left for the United States. At the beginning of the war, it was primarily to the imperial capital that Galicians flocked. In its issue of 18 September 1914, the Socialist-Democratic daily *Arbeiter Zeitung* ("Workers Newspaper") reported 70,000 refugees from Galicia and Bukovina (the neighboring province), of whom four fifths were Jews.

Austro-Hungarian troops returned to the area in May 1915. While for the first time in a war motorized vehicles (tanks, planes, and submarines) played a key role, only a trickle of Galician oil made it to Austro-Hungarian navy bases in the Adriatic, near Trieste. The War Department's propaganda photo, showing a forest of derricks in Boryslav with the caption "The Fuel Pantry of Submarines" (see below), changed nothing. The inherent difficulties of making deliveries during combat were too large, and the railway network was notoriously substandard. Until the end of the conflict, the general staff of the empire claimed—in vain—that everything was done to facilitate the delivery of this necessity of the war.

The end of hostilities, the defeat, and the collapse of the Empire again changed the fate of Galician oil. It found itself at the center of issues regarding the violent territorial dispute that opposed the new Polish state and the transient Western Ukrainian People's Republic, born in October 1918 and bordering on Galicia. The war caused 25,000 deaths before the armistice of June 1919. Eastern Galicia and its oil then returned to the bosom of Poland. In the war, Poland received support

"Boryslav, the Fuel Pantry of Submarines: The Oil Area of Boryslav with Standing Rigs in Full Operation" (from Austrian National Archives)



from France, anxious to find an ally against Bolshevik Russia and Germany. In exchange, Warsaw promised Paris privileged access to Galician oil.

These political uncertainties did not change anything about production: It was steadily decreasing, while other countries—Mexico, Iran, Indonesia—took over. In 1925, Galicia, once again a poor region, was only the tenth largest oil producer in the world. When the Germans invaded Poland in September 1939, the oil fields of Drohobycz-Boryslav were still, however, a strategic objective for supplying gasoline. The Third Reich's troops occupied the area for a few days but quickly retreated since, according to the Molotov-Ribbentrop Pact, the zone was to return to Soviet Ukraine. "We go to bed Polish, and wake up the next day Russian!" was a joke that was told in Boryslav cafés. Imek Segal, born a Polish citizen in 1929 in Boryslav, remembered it many years later; the anecdote appears in his recently published memoir.

In the early years of World War II, the Soviet occupation had little impact on the lives of the Jewish inhabitants, while hundreds of Ruthenians and Poles were deported to Siberia, if not directly executed. Oil companies were quickly nationalized, but most employees kept their jobs. In June 1941, Operation Barbarossa—the German surprise attack against the USSR—marked the return of the Nazis. Practicing a scorched earth policy, literally, the Soviets, forced to retreat, burned the wells, the smell of which witnesses still remember today.

Alfred Schreyer is one of them. Born in Drohobycz in 1922, he carries the memory of that time. A singer and music teacher, he is called today "the last Jew of Drohobycz", because all the others born before the war are dead, except the few who were able to escape. Sitting in his apartment, he recalls how, in taking possession of the area, the Nazis convinced Ruthenians and Poles to commit the worst atrocities against Jews. He also remembers the first of the "Aktionen" conducted by the Nazis—the round-ups of Jews for deportation and summary execution, on or in front of common graves. The Drohobycz-Boryslav region was one of the foci of the "Holocaust by bullets"—the extermination operation, conducted by rifle and machine gun by Nazi commandos (Einsatzgruppen) in Eastern Europe, that killed a million and a half Jews.

If Schreyer and Segal escaped the worst, as opposed to their families, they owe it to extraordinary strokes of luck. Segal hid himself at the bottom of a pit latrine to escape the Nazis. Schreyer survived deportations to Plaszów, Gross-Rosen, and Buchenwald before suffering through the death marches, the forced evacuations of camps conducted by the SS. But both men also owe their salvation to oil. Of the five labor camps created by the Nazis near the region, which was devoted to oil production, Boryslav, where they both worked, was liquidated last, in April 1944. Schreyer explains, "Hitler could not continue to fight without gasoline." Before this, some Jews managed to escape and meet up in the nearby forests, where they built underground shelters hiding up to 40 people. The techniques that they had used to build tunnels for oil exploration proved very useful, and the solid mineral wax found on site allowed the refugees to have light and heat. Like Schreyer and Segal, 700 to 800 Jews survived, of the approximately 30,000 residing in Drohobycz and Boryslaw in 1938.

Some traces still remain of this long history of oil in Galicia. About 500 pumps are still active. They are sometimes discovered hiding in a garden or at a forest edge. Annual production is very weak, however, with 100,000 tonnes, barely 5% of what it was in 1909. In this recently independent region of Ukraine, the activity employs less than 25% of the workforce, notably in the large refinery in Drohobycz.

Even at a low level, oil production in Galicia is still seen as an important part of the Ukrainian energy policy, amid regular tensions with neighboring Russia. A sign that resources are not depleted, it still flows in this area, as in the spa town of Truskaviec, 3 km from Boryslav, where the water has a sulfur taste and is known as a treatment of diseases of the digestive system. Alfred Schreyer recommends it today to tourists of a new type, the old Jews from the area and their descendants, who are trying to understand what happened in these lands when Galicia, with its oil, allowed a dream of a harmonious Europe of different peoples.

This article was first published in French as "L'épopée oubliée du pétrole de Galicie" ("The Forgotten Oil Era of Galicia") in *Géo-Histoire*, October–November 2012, pages 116–127.