Oil Empire

Visions of Prosperity in Austrian Galicia

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sense, one cannot begin to talk about a democratic distribution of power, or of oil as empowering the little man. Peasants and "little men" in general were as poorly represented in the provincial government as in the imperial government, if not more poorly still. Nevertheless, this debate represents an occasion on which local politicians and local interest groups were able to hold their own against the central government and its official and unofficial agents. As historian Gary Cohen would have suspected, since the middle of the nineteenth century, the site for discussions of "social welfare, crime, public health, primary education, and economic development"[83]—at least as far as they related to the oil industry—was thus clearly not Vienna, but Lviv.

These new regulations and restrictions may seem modest in scope and did not change the fundamental nature of the oil industry overnight. They did, however, create a legal framework for the gradual entry of foreign capital into the industry, even while maintaining local supervision. By introducing extensive government regulation of the industry without claiming state ownership of oil and wax, Vienna was able to indirectly interfere with the industry's organization, design, and management. Although landowners had exclusive rights to the profits derived from their subterranean property, the government retained the position of arbiter, mediator, and negotiator between conflicting parties—whether landowner and operator, producer and refiner, or employer and employee. Over the next two decades, large businesses, most of them set up with foreign capital, began to take hold of the Galician oil industry. Once their position was secure, they used economic tools to accomplish privately what the government had been unable to do by fiat. They slowly squeezed out local producers, established economies of scale, and created and recreated cartels and cooperatives to share the costs of pipelines and storage facilities. But in the 1860s and 1870s, organization and modernization were concepts for the future. The oil industry awaited the coming of leaders who would make it viable in a world of international competition. In the 1880s, they would appear.

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Petroleum Fever

Foreign Entrepreneurs and a New National Industry

The story of the oil industry's economic maturation is not a simple on of industrialists forging ahead with a project of modernization and de velopment. Galician oil entrepreneurs' political battles and social statu reveal that the Galician oil industry was the site of disputes with mor than merely economic consequences. At no point in the course of it development were decisions relating to oil production, refining, and trad made solely on the basis of economic interests or reasoning. Politica debates within Galicia, as well as those between Lviv and Vienna, wer colored by competing visions of Galicia's proper place in the Austria Empire (or in a reconstructed Poland). External participation in Galicia industry was accompanied by overt and hidden attempts to "civilize" th province and its inhabitants, or, conversely, to develop appropriate strat egies for dealing with the lack of civilization in Europe's own "Siberia." At the same time, Galicia became the site of attempts to create a mini Polish state in the absence of the "historic" Polish-Lithuanian Common wealth, taking advantage of the political privileges that came with wide spread autonomy and the economic opportunities offered by wha appeared to be immense natural wealth. Although oil producers of th 1860s and 1870s were grouped together in the contemporary imaginatio under the rubric of selfish, ignorant, and shortsighted peasants, the oi producers of the 1880s and 1890s would earn themselves the respect an admiration of engineers for decades to come. This was a period in whic reputations and fortunes were established by a group of pioneering youn men who chose Galicia as the site of a grand experiment in national an personal improvement. Their individual stories cannot be divided fron the story of the maturation of the Galician oil industry.

Traveling to Borysław in the early 1880s was an onerous task not to be undertaken lightly. Although it was connected to the Austrian railroad network via an extension of the Dniesterbahn in 1872, travel remained arduous. First, the visitor would be subjected to the discomforts and hazards of Galician train travel, immortalized by General Stumm's complaint in Robert Musil's 1930 novel *The Man without Qualities:* "But do you know what it's like?! It's like traveling second class in Galicia and picking up crab lice! I've never felt so filthy helpless!"[2] After arriving in Borysław's train station, which was itself two kilometers from the town, the hapless visitor would struggle to find a hackney carriage to take him the remaining distance along a dirt road that was impossible for a pedestrian with city shoes to navigate.[3] Once there, he would find none of the amenities that ease the weary traveler. An illustrated guidebook to Galicia written for tourists and business travelers reported little that would recommend Borysław to the accidental tourist. This "Petroleum California of Galicia" offered the spectator a "valley filled with thousands of mines and shafts, piles of clay and slate, numerous barracks, buildings, and warehouses," but although it had delivered "over 20 million [*sic*] wax, oil, and oil products," one saw "no prosperity in this village of 10,000 souls. . . . The workers are demoralized by alcoholism. Although a Mining Office has its seat here and the influx of foreigners is considerable, one finds no hotels—only crude inns and a few miserable *traiteurs.*" Visitors to the nearest metropolis, Drohobycz (which boasted 18,225 residents in 1882), fared little better. Despite the presence of three hotels, two restaurants, and a café, Drohobycz was derided as a "rich but unclean city." As a symbol of the city's unusual wealth, the authors noted that an asphalt sidewalk (a rarity in the small towns of Galicia) ran along the main boulevard that was lined by the beautiful houses and gardens of the "petroleum kings."[4] Commenting on its filth, another visitor lamented that this same sidewalk was frequented by petroleum peddlers, "covered with petroleum from head to toe," who "brush against pedestrians whose clothes they besmirch." To place this outrageous behavior in context, he added: "in other towns, these peddlers have their designated places of sales, and they are not permitted to use the sidewalks."[5]

But despite these obstacles, over the next few decades more and more prominent personalities and humble vagrants chose to travel to the oil basin. In addition to Emperor Francis Joseph, whose 1880 trip represented a calculated desire to demonstrate support for the province's newest and most promising industry, the oil basin drew thousands of

other, more characteristic, new faces. From 1882 to 1914, Drohobycz population rose from just over 18,000 to around 38,000 resident Borysław and Tustanowice, two villages that had grown together into on sprawling town, together housed 28,000 (up from a modest 7,613 i 1872).[6] Even these numbers are deceptive, however, since not everyon who came to the region was counted in official censuses. Many lived i neighboring villages and hoped to supplement their income with casu day labor in one of the wax mines or oil pits. These drew the attentio of locals who saw in the booming population of newcomers, itinerant and passers-through opportunities to make money from the provision c lodging, food, and drink. A few optimistic socialists sought progressiv modern men and women in the local workers. Then there were entre preneurs, most of them exogenous, with visions of future fortunes tha justified the present personal sacrifices required in a move from the civ ilized West to the Galician hinterland.

While migrant and temporary workers had characterized the village and towns of the oil basin since the beginning of the industry, as had th innkeepers and tavern keepers who lived off those workers' need fo shelter and entertainment, only in the 1880s did the oil region begin t attract significant numbers of serious entrepreneurs and the skille workers who were required by technologically modern productio methods. In the decade that began with the introduction of the nev mining law in 1884 and ended with the opening of the particularly ric oil fields of Schodnica in 1895, Galicia saw a transformation in the tech nology used to extract oil, a concomitant explosion in production, an the emergence of a powerful lobby of large-scale producers who made i clear that they had linked their personal fortunes to those of the oi industry. At the turn of the twentieth century, the companies founde by those entrepreneurs were joined by a plethora of new joint-stock com panies backed by banks and conglomerates from outside Galicia, in cluding some of Vienna's most prominent financial institutions. Thei proprietors and governing boards were prepared to defend their interest against those of landowners, of small business operators, of central Vi ennese authorities, and of refiners. At the middle of the nineteenth cen tury, oil was a curiosity, and its extraction and exploitation were the realm of scientists and adventurers. By the beginning of the twentieth century oilmen represented a powerful social and economic force that helpe define the course of Galician politics.

Starting in 1884, the methods of financing and executing oil productio

and refining in Galicia matured. New technologies that promised to raise the Galician oil industry to standards set by the United States were introduced. At the same time, a group of large, capital-rich companies, often with foreign backing, slowly tried to drive smaller, more haphazard companies out of business, a process that continued until the outbreak of the First World War. Neither of these developments were complete metamorphoses, however. Digging and hand drilling continued side by side with machine drilling. Small-scale companies with a handful of employees and no capital investment held on to their precarious existence for decades more.

Interest in oil had been slow to materialize among larger companies. A list of 205 oil and wax production companies active in 1881 reveals that almost all companies were run by individual Galicians, most of them Jewish. The only exceptions were two large wax companies: the Galician Credit Bank and the Société Française pour l'Exploitation de Cire Minérale et Pétrole, commonly refered to as "the French Company."[7] The Galician trade inspector reported in 1884: "it is a well-known fact that, with the exception of the city of Biała, there is not a single so-called industrial city in all of Galicia, and that the few factories lie like oases scattered in a desert."[8] There were several explanations for this: one Viennese mining commissioner suggested that it was in part the fault of the "stranglehold of taxation" (a remark that aroused the immediate objection of the Ministry of Finance) and in part the fault of still underdeveloped consumer markets.[9] In addition, the weakness of the domestic (that is, Galician) market was such that high-quality oil made for export could not be sold there, leading to the production of two different grades of oil, described in a government report as "one white, high grade, identical to American [oil] for the cities, the wealthiest rural residents, and for export, and one yellow, mixed with gasoline to raise its illuminating power and its quality, for the rural poor." A subsequent comment in this report revealed that the difference was not just cosmetic: "This lesser type, although called 'explosive', poses no threat when one knows how to handle it and has won, due to its *much* cheaper price, a large market."[10] But exports remained low: in 1891, Galicia produced 87,700 tons of oil, of which only 2,630 tons (less than 3 percent) were exported.[11] The high costs of production and shipping made Austrian oil incapable of competing with American oil outside of the empire, and little had been done to lower those costs.

In the early 1880s, a series of developments made the industry mo promising to entrepreneurs. First, an 1881 law ensured that foreign join stock companies could legally run mining operations in Austria.[12] Secon the construction in 1883 of the Transversalbahn, which ran through th entire oil basin, connected production regions with the rest of the empir Third, the 1884 Mining Law, which introduced registries for landow ership and mineral rights control, brought about greater regulation of th oil industry. Fourth, the introduction of higher tariffs for crude and re fined oils in 1882 provided some price protection from imports.[13] Thes developments did not themselves cause the explosion in production an investment that characterized the oil industry in the last years of th nineteenth century, but they did create a more promising market. Tha promise drew the attention of several inspired individuals whose actio did indeed directly contribute to the oil industry's unprecedented growt

Two men took the lead in taking advantage of this improving situatio Stanisław Antoni Prus Szczepanowski (1846–1900) and William Henr MacGarvey (1843–1914). Neither was born in Galicia. MacGarvey was native of Canada; Szczepanowski was born in the Duchy of Pose (Poznań). Nor did they represent the type of great and prominent figure who are memorialized in biographical dictionaries of Galicia. Neither wa noble, neither was invested with particular artistic talents, and neithe participated in any of the numerous nineteenth-century uprisings tha created popular Polish heroes. But both were symptomatic of a new bree of Galician citizen; as Ivan Franko put it, such entrepreneurial spirits wer still without "stable foundations" in Galician culture,[14] but they were in creasingly to be found. Szczepanowski and MacGarvey were fully com mitted to the Galician oil industry; their personal fortunes would rise an fall with oil production and prices. Not connected to Galicia by birth o breeding, they chose to settle in the province and make it their permanen home. Pioneers, innovators, and self-made men both, they set an exampl of the great potential and the great peril of the oil industry and left tha industry transformed.

Both Szczepanowski and MacGarvey turned their attention to Galici around 1880 (Szczepanowski in 1879 and MacGarvey in 1882) amid new of impending legal reform. What they found when they got there was a industry that had stagnated, in particular in the years after the depressio of 1873. Mining was carried out largely in the same primitive fashio that had characterized the previous decade. The quarter century of tech

nological progress that had made advanced drilling commonplace in the oil fields of Pennsylvania and Ontario had not brought great change to exploitation techniques in Galicia. As early as 1865, the sinking of wells in Pennsylvania was powered exclusively by engines.[15] By 1873 in North America, percussion drilling had replaced older methods that used spring poles and grasshopper walking beams.[16] At that same time in Galicia, nearly all shafts were dug, rather than drilled, and steam engines were an unknown luxury: in 1885, there was one steam engine with sixteen horsepower in use in the entire Galician oil production industry.[17] The widespread absence of drills can be explained by three factors. First, wax could only be retrieved from wells that had been dug. As long as wax was more profitable than oil, as it was throughout the 1870s and 1880s, this made operators anxious to protect any possible wax deposits.[18] Second, although attempts to drill rather than dig had been made as early as 1862, no drilling method had been found that exactly suited the geological conditions of the Carpathian foothills.[19] Third, the plethora of small, low-capital companies could not afford the initial investment required to purchase drills and pay skilled drillers. That the lack of capital was at the heart of the problem is demonstrated by similarly weak figures in refining: in 1876, Galicia's forty-seven refineries had only seven steam engines with a total of thirty-eight horsepower.[20]

When a new oil field was discovered in Galicia, it immediately became the scene of a flurry of activity. After acquiring a plot typically thirteen to twenty square meters in size [*sic*], a prospector would dig a round hole about one meter in diameter. He would then sink poles about two to three inches thick vertically around the perimeter of the hole. These would be plaited with hazelnut twigs like a basket. Then the hole would be sunk further and reinforced with more basket weaving. Two poles about six inches thick and forked at the top would be hammered into the ground on either side of the hole to serve as supports for the windlass, made from a crooked piece of wood with a naturally formed winding handle. A hemp rope wrapped around the windlass was attached by a simple knot to the belt of the pit worker who would be lowered into the pit. (Pit workers were invariably men, for although women were employed in the oil industry, they were never allowed to work underground.) Standing at the pit's bottom, the pit worker would dig deeper and deeper, shoveling the earth he removed into a wooden bucket now suspended from the same rope that would later pull him out of the pit.[21] Workers

aboveground would lift up the bucket and empty it, forming hug mounds of earth, which were left to stand next to the pits and becam obstacles in times of fire. When the pit had been sunk to a depth at whic gases became dangerous, workers (sometimes female) abovegroun would turn a ventilator that was supposed to circulate fresh air into th shaft. This continued until the pit worker reached a point where he coul smell or see oil bubbling up at the bottom of the well. At that point, h would be pulled out of the well, which would be covered with wooder boards overnight. The well's anxious owner and his employees would wai for the pressure of the oil to push through the thin layer of earth betwee it and the air. Usually, when the wooden planks were removed the fol lowing morning, the well would be filled with oil, which would then b removed by the bucket.[22] Not surprisingly, digging proceeded slowly, an rates of oil production were low. In the 1860s and 1870s, Galician pros pectors could expect to make no more than twenty centimeters of down ward progress on a typical day. A government inspector in the 1870 called the production of a mine that produced 3.1 tons of oil a day fo several days in a row "marvelous."[23]

In addition to being incredibly inefficient, this style of extraction wa a safety hazard. The workers were often victims of collapsing shafts, th primitive cribbing provided by hazelnut twigs notwithstanding. Accordin to one engineer, "a shaft sunk in this fashion cannot resist the under ground water or the pressure of the earth for long. Already several live have been lost because of the collapse of shafts or falling stones cause by this irrational, unprofessional manipulation."[24] The noxious gases tha filled these pits often knocked workers unconscious; if workers lost con sciousness while they were being lowered into or lifted out of the pit they could (and often did) fall to their deaths. If they became unconscious while working at the pit's bottom and this went unnoticed by their col leagues aboveground, they would continue to inhale the poison until they suffocated to death. In addition, a pit worker was in constant danger o being caught unexpectedly by sudden eruptions of oil that turned out t be closer than he anticipated. Even those pit workers who were able t avoid all underground accidents could be (and frequently were) killed by a stone accidentally dropped into the shaft from above or by a fire started when gases were ignited by even the smallest spark.[25]

Despite accident rates more reminiscent of factory than farm life, there was little that seemed modern about the oil industry. Many small oper-

ators seemed satisfied with the risks and rewards offered by the status quo; their inertia and resistance to change frustrated early attempts at reform. Contemporaries were quick to blame these small operators, most of whom were Jewish, for the deplorable condition of the industry. Few Jewish producers were able to overcome prejudice and establish reputations as men of skill and conscience. One such man was Efroim Hersch Schreier (1844–1898). A long-standing member of the Galician Provincial Petroleum Association (GLPV), he successfully transformed a small company founded in the earliest days of oil exploitation into one of Galicia's few successfully integrated companies, Gartenberg and Schreier, with a refinery in Kołomyja, built in 1882 and another near Jasło, built in 1890. Upon his death, a contemporary, Stanisław Olszewski, called him "one of those citizens of the Mosaic faith who know how to bring his own interest into harmony with that of the country."[26] Such words of praise for Borysław's earliest entrepreneurs were exceedingly rare, however, and no one expected that reform would come at the hands of producers themselves.

Nevertheless, when Szczepanowski and MacGarvey looked at the oil industry, they saw the potential to transform it into a mining branch organized along the model of industries in Canada, England, Germany, and northern Italy. They saw industrialists, not landowners, taking the lead: entrepreneurs who spurned slow industrial development that was subordinated to the needs of agriculture in favor of rapid change that was driven by the importation of new technologies and new ideas.

Szczepanowski was among the first men deliberately to choose Galicia as the site of a grand experiment in industrialization. He was born in December 1846 in the Duchy of Posen and was thus a subject of the king of Prussia. As a youth, he worked with his father, a railway engineer, building bridges, culverts, embankments, and junctions in Hungary before moving to Vienna to attend the Polytechnic High School.[27] After graduating in 1867, he left Austria to travel through western Europe.[28] This trip, a bourgeois version of the grand tour, occupied the next thirteen years of his life. After a brief stay in Strasbourg, he moved on to northern Italy, where he visited textile mills, a progressive dairy factory, and various other industrial sites. Almost two years spent in Piedmont left him with great admiration for the architect of Italian unification; years later he wrote, "My dream was to become a Polish Cavour."[29] Eventually, however, he found the pull of Europe's greatest economic power irresis-

tible.[30] In March 1869, at the age of twenty-two, he arrived in Londor where he remained with only few interruptions for over a decade. H served as secretary to John Forbes Watson, the director of the departmer of trade and industry in the British India Office in 1870, a position h held for the following nine years. While working in that office, Szczepa nowski conducted economic studies of India, with an emphasis on sta tistical analysis.[31]

During his long residence in the West, Szczepanowski returned t Austria-Hungary only once. In 1873, at the age of twenty-six, he mad his first trip to Galicia, visiting his ailing father, who had moved to Lvi to work for the Archduke Albrecht Railway.[32] His father's poor health di

Stanisław Szczepanowski. (Courtesy of the Ignacy Łukasiewicz Memorial Museum of the Oil Industry in Bóbrka.)

not induce the ambitious Szczepanowski to stay, nor did he return upon his father's death in 1875. Back in London, he decided to accept British citizenship in 1877.[33] At this point, all evidence suggested that he intended to make London his permanent home, and yet within two years he changed his mind and left England for good. Szczepanowski later claimed that the Prince of Wales, the future Edward VII, asked him in 1879 to participate in an expedition to India to investigate the effects of the famine of 1876–1878 as his "expert on Indian economic affairs." His refusal to do so amounted to a withdrawal from British society and necessitated his resignation and departure from England.[34] In December 1879, Szczepanowski returned to Galicia to visit his mother, who had remained in Lviv. In the spring of 1880, he took a course at the Geological Institute in Vienna and then returned to the Carpathian Mountains to conduct geological investigations, practicing the empiricism that was central to his positivist outlook by traveling the width and breadth of the province on foot. It was during this tour that he first visited Galicia's petroleum springs.

Szczepanowski's ultimate goal was to convert what he had learned as an economist and a scientist into practical assistance for the land of his birth. His writings make clear that in his mind, his homeland was Poland—a country that, although not represented by an independent state, nevertheless continued to exist in the hearts of Polish patriots. Experiences gained in England convinced him that Poland's salvation lay in the resuscitation, organization, and industrialization of its economy, not along the path of political revolution. Only with economic revitalization, he argued, "can we make a nation where today one finds only the raw materials of a nation."[35]

Szczepanowski was not alone in stressing economic and social modernization. After the disastrous January Insurrection of 1863 in the Congress Kingdom (Russian Poland), many Poles turned further away from what seemed to be suicidal attempts at political revolution, stressing instead other sources of national regeneration.[36] According to historian Andrzej Walicki, this strand of "positivism" or "organic work," which "concentrated on the problems of the economic and social modernization of the country and took for granted that this meant development on the Western model," was especially strong in Posen, the province of Szczepanowski's birth and early education.[37] Szczepanowski was critical of a focus on economic development to the detriment of moral and spiritual

development. According to Szczepanowski, popular opinion held that "i is easy to make a hero out of a Pole, but hard to turn him into a decen person." This had led to attempts to create "decent Poles" who woul look like "a breed of Polish-speaking Germans and Englishmen"—at tempts that inevitably ended in disaster. What was needed was a class o Poles who were simultaneously "decent" and "heroic": "In every Pol from peasant to nobleman, there is a spark of heroism." Instead of imi tating contemporary Germans, hampered by their "bureaucratic strait jacket," Poles should look to an earlier generation of Germans, charac terized by Johann Heinrich Pestalozzi's school reforms, Friedrich Ludwi Jahn's foundation of nationalist gymnastic clubs, and the creation of network of musical societies. In sum, Poles should strive to create "steady and harmonious cultivation of all physical and spiritual power on the model of ancient Greece."[38] Although Szczepanowski was himsel an economist and an industrialist, his writings reveal that his inspiratio lay not in personal wealth, but rather in the pursuit of a simultaneousl economic and spiritual rebirth of the Polish nation. He demanded a rev olution in every aspect of Galician society. Without a cultural transfor mation, there could be no economic transformation; without an eco nomic transformation, there could be no political transformation.[39]

During Szczepanowski's 1880 geological tour, he concluded that oi would be the key to reviving the Galician economy. Szczepanowski im mediately set about organizing the Galician oil industry. After collectin 900,000 florins (1.8 million crowns), he quickly set up an oil compan in Słoboda Rungurska, a sleepy sheepherding village in the Kołomyj district, and promptly struck oil in October 1880.[40] Always seeking th most modern means of production, he became only the second oilman in the region to make use of a drill powered by a steam engine. In 1889 the company he founded, S. Szczepanowski and Company, became th First Galician Petroleum Industry Corporation.[41]

None of his previous experiences in industry had prepared Szczepa nowski for the success that greeted him in February 1881 with the tappin of the oil well Wanda. According to widely varying accounts, Wanda was dug manually to a depth of between 90 and 150 meters and in the first period of exploitation produced between 10 and 70 tons of crude oil a day (the disparity in figures is a feature of the widespread rumors of Szczepanowski's success).[42] Wanda made Szczepanowski a household name; along with his fame came increased attention to the promise of

oil, intense competition, and skyrocketing land prices. Success revealed new ways in which the process of building up an oil company was fraught with obstacles. Sudden increases in production caused by hyperproductive wells like Wanda brought with them harried attempts to conjure up storage tanks, pipelines, and barrels to contain and transport the oil that would otherwise be lost as it ran into the ground and spilled into waterways.

Five years later, experience forced Szczepanowski to answer his own rhetorical question, "For is not flowing oil the same as flowing gold?" in the negative. "Oil and gold," he explained, "but before that transformation takes place you must get that oil into barrels and reservoirs, which costs money. Barrels leak, so you either squander oil or spend more money on a cooper's workshop. Oil flows—there are no barrels and here there are no buyers . . . so you need to build distilleries, that is, once again spend money and buy yourself new hopes and new troubles." Speaking generally about the oilman's challenges, Szczepanowski also aired his own vexation at the tribulations wedded to success: "My God, your neighbors are so greedy for this oil that you cannot sell, leaking out of thousands of barrels, that every day, every hour, you hear about new intentions to sink ever more wells close to your 'Eldorado' and take away your treasure. So then you have to sink new wells yourself under the worst conditions, quickly, quickest! Spend more money! Spend money on engines, tools, fuel, and people. Spend money to build roads, for rail transport. . . . Flowing oil and flowing gold! Yes, only it is not oil that is transformed into gold, but rather the other way around." It took much more than a lucky strike to make a fortune from oil.[43]

Realizing that the highest profits were gained by refining the crude oil extracted from wells, Szczepanowski opened a refinery in Peczeniżyn in 1882. His refinery was intended to provide a ready consumer of the excess crude oil his wells produced by fabricating lighting oil for transport to Bohemia and Moravia, but his plans were continually frustrated by high transportation costs. Since he owned no land of his own, he was forced to lease mineral rights from landowners who were now all too aware of the value of their land. In extreme cases, he paid up to 65 percent of his profits for the privilege. Nevertheless, he remained optimistic, continued to expand his enterprise, and was rewarded with high profits from wells like those in Kucow, which produced 600,000 to 700,000 florins (1.2 to 1.4 million crowns) in pure profits a year. Szczepanowski's dramatic story

ignited a petroleum fever throughout Galicia. Here was a man with n prior entrepreneurial experience who had quickly built up a veritab fortune through clever investments in an industry in which it appeare that one could not lose. Investors snapped up any and every opportunit to get involved in oil, often without closely examining the financial sol ubility or technical expertise of the recipients of their credits. Szczepa nowski himself benefited from creditors' excessive good faith: he wa "able to get a 75,000 florin [150,000 crown] advance within a few hours and in Vienna, a loan of over 150,000 florins [300,000 crowns] "after conversation of only a few minutes."[44] He was easily able to acquir 25,000 florins (50,000 crowns) each from the Galician Savings Bank (Gal izische Sparkasse), the Galician Mortgage Bank (Galizische Hypotheken bank), and the Lviv branch of the great Viennese bank, the Creditanstal für Handel und Gewerbe. He later recalled that "the petroleum busines had at that time hypnotized everyone, even cold calculators like the Lvi financiers, such that all it took was one word in order to acquire relativel high credit."[45]

A tireless advocate of oil as a vehicle for the improvement of Galicia social conditions, Szczepanowski used every means at his disposal to de fend the industry. He was a member of the Trade Society and an arbite in the GLPV. His first experiences as a publicist came in England, wher he later claimed to have published articles in the financial gazette, *Th British Economist,*[46] while his friends said that he had worked for th *Times.*[47] In Austria, he became a regular contributor to a number o newspapers, including the Kołomyja biweekly *Pomoc własna* (Self-help) which he founded in 1889,[48] and *Ekonomista polski,* which was founde in 1890 to serve as an organ for Szczepanowski's "new economic pro gram."[49] He also sat on the editorial board of *Naphta/Nafta* (the news paper organ of the GLPV, published in separate German and Polish edi tions) and edited the newspaper *Słowo Polskie* (the Polish word). In 1888 Szczepanowski gained widespread notoriety with the publication of *Th Poverty of Galicia in Figures and a Program for the Energetic Developmen of the Economy of the Country,* the product of twenty years of research.[5 In this work, he compared the quality of life in Galicia with that o Russian Poland, Hungary, Italy, Germany, Belgium, France, and Englanc and concluded: "if there is a country anywhere where the fault for mis erable conditions lies more with its people than with its institutions, ther that country is Galicia." On every level of governance, whether local

district, or provincial, he claimed that "at every step we meet examples of the rights and privileges of titled people who either are unable or unwilling to make use of them." The means, he argued, were as important as the material ends: "We in Galicia . . . have a miraculous and rich nature. We have lacked until now the people who were able to make use of it, but we possess the invaluable privileges of free civic activity, privileges without which even the wealth of El Dorado would be loathsome."[51] These privileges included not only the rights of assembly and expression, but also political powers that enabled Poles to defend their interests and those of their province when the central authorities were not interested in doing so. For example, when Szczepanowski publicized massive smuggling of a Russian *falsifikate* (a refined oil that was discolored with heavy oils that were easy to remove in order to be carried across the Austrian border as "crude oil" at much lower tariffs), discovered by his friend and colleague Schreier, he was able to expose the laxity of border controls. Their agitation made the combating of the Russian product a key topic in the decennial negotiations to renew the *Ausgleich* between Austria and Hungary (which set tariffs on imports to both halves of the empire).[52]

Szczepanowski's involvement in the oil industry served as a clarion call to talented young Poles looking for a vocation that would serve equally as career and calling. These included bank director Franciszek Zima and aspiring engineers Wacław Wolski and Kazimierz Odrzywolski, who later became his most faithful financial benefactors. Szczepanowski inspired the confidence and loyalty of dozens of men who viewed him as something of a Polish messiah. From among his immediate circle of friends and acquaintances, and from a larger group of Poles who were generally characterized as "democratically leaning," Szczepanowski was able to raise truly impressive amounts of capital, generating a swell of investment in the industry led by his own example. By January 1899, his debts, all of them guaranteed by friends and colleagues, ran to over eleven million crowns (at a time when the director of the Galician Savings Bank, who approved most of these loans, earned eighteen thousand crowns a year), indicating an enormous growth in the scale of investment.[53] Without reservation, Szczepanowski poured all of these funds into the development of Galician industry; even his enemies never thought to accuse him of pursuing personal gain or a luxurious lifestyle.

Szczepanowski initially eschewed political activity, consistent with his belief in the primacy of economic improvements. Nevertheless, when he

was elected as a representative to the Imperial Parliament in Vienna i
1886 and a few years later to the Galician Provincial Diet in Lviv—i
both cases, he proudly insisted, without having campaigned for the pc
sition—he did agree to serve. Even when he was a prominent politicia
and a member of the Polish Club, Szczepanowski's primary identificatio
was with the oil industry. In the introduction to *The Poverty of Galici*
he claimed that he had only been elected on the basis of the "fame [h
had won from petroleum affairs" before he had even had the "opportu
nity to reveal briefly [his] views on public affairs." This led him to cor
clude that his election was symptomatic of a growing recognition of th
ineffectiveness of "complicated political calculations" in the absence c
the successful generation of provincial wealth. Political channels offere
only secondary paths to his stated goal, a vibrant Galician economy. H
believed that "it was high time to lead the economic politics of th
country from the area of worthless parliamentary debates to the regio
of positive, profit-bringing work." Szczepanowski always insisted that hi
political activity was intended only as a means of furthering his economi
program. In turn, his economic program was a means of helping Polis
Galicians "make our society equal to the civilized nations and graft ont
it the embryo of independent spiritual and economic development tha
characterizes modern civilization."[54] In short, Szczepanowski saw in oi
an opportunity to rescue Poland.

Others saw in Galicia's "black gold" an opportunity to make a nam
and a fortune. Foreigners from beyond the reaches of greater Poland an
the Austrian Empire were not inspired by patriotic considerations. Rathe
they were lured by a province described as an industrial wasteland, i
which an ambitious and inspired entrepreneur could quickly make hi
mark. John Simeon Bergheim, for example, was an English enginee
whose talent and ambition led him to search for oil in Hanover, Bavaria
Romania, Galicia, southern Russia, Mexico, and Nigeria (where, with di
plomacy and perseverance, he was able to convince officials of the Co
lonial Office to grant him a near monopoly over prospecting rights).[55] A
the time of his death in an automobile accident in 1912, he was chairma
of International Maikop, the Nigerian Bitumen Corporation, the Anglo
Mexican Oilfields, the Cuban Petroleum Company, Tampico Oil, and th
Société Française de Pétrole. Long before he became one of the interna
tional oil industry's "best-known supporters,"[56] however, Bergheim wa
indirectly responsible for one of the greatest events in the history o

Galician oil: the arrival of the young Canadian driller, William Henry MacGarvey.

MacGarvey had begun his career in the oil industry in Petrolia, Canada, sometime around 1862.[57] He rose to prominence as local mayor and owner of eighteen producing oil wells, in addition to a store.[58] In 1881, he was recruited by Bergheim to try their luck in Ölheim, Hanover.[59] In 1882, MacGarvey moved to Galicia and offered his services as a drilling operator. In 1883, the two men joined forces again, founding the petroleum company Bergheim and MacGarvey.[60] Principally a drilling expert during his first years in Galicia, MacGarvey introduced the Canadian cable drilling system to Galicia in 1884, a moment that marked Galicia's entry into the world of modern petroleum mining.[61]

Although there had been some drilling before MacGarvey arrived, it had remained rare because of the limitations of local technology. Once the shallow beds that could be reached by digging or hand drilling were tapped and exhausted, operators had to assume that there was no more oil to be had, since they could no longer search for it. The Canadian drilling system, with which MacGarvey had first become familiar while working in Enniskillen, Canada, in 1866,[62] allowed exploration at previously unheard-of depths and unimaginable speeds. Instead of the 20 centimeters that had been the local norm, drillers could now delve 24 meters into the earth in twenty-four hours and easily reached depths of over 1,000 meters where 150 meters had been the limit only a few years before.[63] This not only sped up exploration in new oil fields, but also reopened old ones long thought dry. MacGarvey imported dozens of Canadian drillers in addition to new equipment[64] and, after adapting the technique to suit local geological conditions, led a technological revolution in the Galician oil basin.

Borysław, which later became synonymous with the oil industry, was of little interest to oilmen at the time MacGarvey first came to Galicia. The entire region had been thoroughly explored in the search for ozokerite. Using MacGarvey's techniques, drillers discovered that there was an entire bed of oil approximately 150–200 meters underneath the old wax mines.[65] This territory had initially been unavailable to exploration for oil because it had been controlled by large wax extraction companies such as the Compagnie Commerciale Française (which had taken over the mines of the defunct Société Française pour l'Exploitation de Cire Minerale et Pétrole) and the Galician Credit Bank, which viewed oil ex-

William Henry MacGarvey. (Courtesy of the Lambton Room, County of Lambton [Ontario] Libraries, Museums, and Cultural Services Department.)

traction unfavorably.[66] As the first person to discover this second stratum of oil deposits in Borysław, MacGarvey was thus responsible for an unprecedented increase in Galician production. In 1894, the year he first started drilling for oil, total Galician production was 132,000 tons; only ten years later, Borysław's production alone accounted for 560,000 tons, making Borysław far and away the most significant source of petroleum in the empire. In the first ten years after his arrival in Galicia, MacGarvey drilled 370 boreholes with a total depth of 100,000 meters.[67] But MacGarvey was not satisfied as a drilling operator.

MacGarvey understood the oil industry in a way that few of his colleagues in Galicia could match: his is a rare example of vertical integration, the key to his unparalleled success. MacGarvey continued to invest in production itself, but in addition to overseeing and carrying out exploration and drillings, he also acquired control of extraction rights and built and maintained refineries and factories for the manufacture and repair of drills, engines, and various tools needed for the oil industry. He also produced barrels and storage containers, set up pipelines, and stored petroleum produced by his competitors in exchange for hefty storage fees.[68] Forging ahead was not always easy for MacGarvey. He had to fight with landowners to get his fancy machinery in place. Even with the new mining laws, it was not always clear who held title to properties and their mineral rights, and occasions arose on which MacGarvey's right to use land for which he held a contract was challenged. MacGarvey's determination was not lessened by these obstacles. When his access was denied, he sued. When he lost a suit, he appealed without concern for the power and prestige of his opponents. He did not hesitate, for example, to appeal to the Ministry of the Interior for protection against the Roman Catholic bishop, Dr. Łukasz Ostoja Solecki, when the latter challenged MacGarvey's right to set up a steam engine and a steam boiler on his estate.[69] He later said that the oilman's best motto was one derived from Rockefeller's philosophy: "Do unto others as they would like to do to you, but do it first."[70]

Throughout the 1890s, MacGarvey's company acquired mineral rights all over the province. Multiple contracts were drawn up with lessors ranging from the Galician Credit Bank to individual villages.[71] By 1901, the cost of mineral rights to a plot of land in a part of Borysław considered certain to return oil ranged from 3,000 to 4,000 crowns, in addition to 20 percent of the extracted crude gross. Away from the anticline, where

success was most likely, rights to a plot of the same size in regions wher oil was less certain would sell for 600 crowns and 12 percent of the gross.[7] High prices did not deter MacGarvey, who also purchased exploratio rights from other companies that had chosen not to make use of then or had been unable to do so profitably. In one case, he purchased th rights to explore for "naphtha, oil, mineral wax, and all other mineral not reserved under the Imperial Mining Prerogative" from competitor for the astonishing sum of 2,083,200 crowns.[73]

Like Szczepanowski, MacGarvey was quickly acknowledged to be leader in the oil industry. He, too, was an arbiter in the GLPV and powerful figure who took part in all meetings and conferences relatin to oil production in the province. The GLPV's print organ, *Naphta*, wa used to publicize the benefits of MacGarvey's patented products. Pur ported news stories reporting on the benefits of Canadian drilling tech niques served to convert even MacGarvey's competitors for drilling con tracts into customers of his patented machines and drilling tools.[74]

After a decade of steady growth, on 4 July 1895, MacGarvey anc Bergheim transformed their private firm into a joint-stock company tha became one of the leading corporations in the Galician oil industry: th Galizische Karpathen-Petroleum Actien-Gesellschaft vormals Bergheim & MacGarvey (the Galician Carpathian Petroleum Joint-Stock Company henceforth the Carpathian Company). The company's headquarters were in Vienna, its machine shops and foundry were in Glinik Maryampolski a village near Gorlice in western Galicia, and it had branch works in Borysław and Tustanowice.[75] The Carpathian Company was founded with a capital of 10 million crowns and ran with equipment and tools and on property that had been purchased for 8 million crowns.[76] In its first year of existence, the new joint-stock company produced nearly 35 million kilograms of crude oil, 17.5 million of which were refined in its own refinery in Glinik Maryampolski.[77] By the early twentieth century, the Carpathian Company employed 2,400 workers, owned steam engines and water power in the strength of 2,800 horsepower, and produced crude oil, refined petroleum, gasoline, lubricating oils, paraffin, steam drilling engines, drilling rigs, boilers, pumps, core drills, winding machines, portable electric cranes, and eccentric drilling bits that had been patented by MacGarvey himself.[78] The Carpathian Company offered investors 15 percent dividends in 1900.[79]

Canadian journalist Gary May has devoted an entire chapter of a book

on Canadian oil workers abroad to MacGarvey, whom he calls the "Petroleum King of Austria." MacGarvey's exploits were popular fodder for local newspapers in Petrolia, Canada, where his daughter's marriage in 1895 to the nephew of the German count Ferdinand von Zeppelin caused an explosion of pride. Although at age sixty-seven, after nearly three decades in Galicia. MacGarvey still described himself as "a Canadian and a citizen of the Great [British] Empire" he clearly had committed himself and his family to a life in Austria. By bringing his family with him to Europe, he did what few of Canada's "hard oilers" chose to do and signaled that Austria was his new home.[80]

An abundance of other drillers and investors followed MacGarvey's lead. By 1886, the factory inspector could claim that "the petroleum industry is and will remain absolutely the most important industry in the country"—beating out other Galician industries, including the production of metals, engines, tools and machines, glass, clay, wood, leather, textiles, paper, and foodstuffs (including liquor), chemistry, and construction.[81] In 1900, there were 1,722 different petroleum companies exploring, drilling, and extracting in ninety-seven different towns and villages in Galicia. Of those, only 120 had actually extracted oil, 34 had begun drilling, and 16 had given up their business.[82] Active companies produced 347 million kilograms of crude oil in 1900.[83] More oil production meant more oil to be refined. In 1900, Austrian and Hungarian refineries treated 390 million kilograms of crude, 84 percent of which originated in Galicia.[84] As rates of production increased, so did the founding of oil refineries. From 1872 to 1901, fifteen new petroleum-refining joint-stock companies were created with a combined total of 33.7 million crowns of founding capital. These companies offered astonishing rates of return: the Floridsdorf refinery offered dividends of 25 percent in 1896 and an annual average of 20 percent from 1897 to 1902.[85]

Although technological innovation laid the groundwork for a new period in oil exploration, it was not publicly inaugurated until the opening of the Anglo-Österreichische Bank's well Jakób in Schodnica in 1895. Like many Austrian and foreign banks, the Anglo-Österreichische Bank, or Anglobank, became directly involved in the Galician oil industry. It created the "Schodnica" Actiengesellschaft für Petroleum-Industrie in 1894, which owned Jakób, an explosive gusher that proved that great successes could be equally great calamities. After it had been drilled to 304 meters, Jakób initially produced 1,000 tons of oil a day (fourteen times as much

as the highest estimates for Wanda). Internationally recognized becaus of its productivity and the local environmental catastrophe caused by th sudden gusher that flooded a territory half a kilometer in diameter in oil Jakób was Galicia's most famous and most productive well to date.[86] To gether with its neighboring well, Cäcilia, it produced 8,000 tons of oil i 1896, but it had the potential to have produced much more. No on could calculate how many tons had been lost when, in the initial outburst oil had streamed into the Stryj River. Geology professor Władysław Sza jnocha called the loss of so much oil a "tragedy" for the producers.[87] Bu the petroleum lake Jakób created also distressed local farmers, wome who used the Stryj's water for cooking, drinking, and laundry, as well a fishermen, and, presumably, many fish.

Beyond that, the film of petroleum that covered water and land create a considerable danger of uncontrollable fires, making everyone in th region vulnerable to loss of life or property. The factory inspector de scribed the cause for concern: "At the beginning of the eruption, befor the drill hole could be plugged, the oil poured into streams, gutters, ont streets, etc., and in this manner came into proximity with various fire (steam boilers, smithies, private houses, etc.) so that there was constan fear of the outbreak of a general fire in Schodnica. Before the drill hol could be successfully covered, all possible measures were taken to collec the flowing petroleum; among others, sixty provisional oil reservoirs were dug a few meters deep and wide." Attempts to collect the petroleum int reservoirs notwithstanding, the factory inspector feared that human ac tivity tended to increase, rather than decrease, the risk. "The poor pop ulation scooped the oil out of the gutters, brought it home, and in thi way turned every residence into a dangerous oil depot; it came to th point where lighting a fire in many private houses had to be forbidden The drill hole had hardly been blocked and the oil from the same directed into an iron reservoir when the gas pressure that collected in the reservoi tore its roof and lifted it into the air."[88]

The factory inspector's report represents a catalog of the many ways oil production threatened the lives and property of those in its immediate environment. First, by covering the land (and the vegetation growing on it) for hundreds of yards in all directions with a blanket of oil, a gushe made agriculture in its immediate proximity hazardous. Second, by flowing into rivers and streams, the oil not only killed fish in those waterways but also polluted the fields and meadows that they irrigated

during periodic floods. Third, oil "run wild" posed the threat of fires that started quickly and burned long and threatened both human life and property. The risk of fire was ubiquitous. It could be the result of lightning, considered a "natural catastrophe," or the product of human interference. Humans could cause fires either unintentionally because of ignorance, carelessness, or both, as the factory inspector feared, or because of arson, a perennial fear during recurrent worker disturbances. Fourth, the effort to contain gases in man-made vessels was rarely successful for long and regularly led to explosions. A fifth category of damage not mentioned by the factory inspector in the context of the Jakób disaster, but appearing in his reports elsewhere, was the effect of the hundreds and at times thousands of holes dug in the ground throughout the oil basin. "Thousands of uncovered shafts are the cause of many accidents. Even if an owner is so conscientious as to cover his shaft, the [wooden] cover is simply stolen overnight and not replaced."[89] Abandoned pits, left unguarded and uncovered, posed a danger to unwary pedestrians and were the cause of numerous drownings when they filled with water (leading to the development of a new genre of popular literature in which murdered corpses were routinely hidden in them).[90]

Research conducted in the 1970s and 1980s has demonstrated that oil acts as a herbicide and reduces soil fertility when spilled on land, fatally damages marine ecosystems when spilled into water and contributes to acid rain when burned.[91] Today these considerations may suggest to some that the oil industry was not always a boon to the physical and social landscape of Galicia. The connection between oil and environmental disaster seems natural and universal. Calamity has accompanied the human interaction with petroleum at every historical stage of the development of the oil industry, from the ancient military use of pitch set aflame to oil spills that routinely made headlines at the turn of the twenty-first century. Then and now, catastrophes occur at every stage in oil's extraction, distribution, and consumption, from oil set ablaze at the point of production to famous spills, explosions at the point of sale, and fires set off in the living rooms of kerosene's first consumers. So it might seem obvious that wherever oil extraction begins, those around it should object—if not in the interests of nature, then in the interests of their own safety and economic security.

The historical record furnishes ample proof that the "illumination" and "enlightenment" offered by oil came at a heavy price in Galicia. The

production and distribution of oil led directly to pollution, propert damage, injury, and death. Yet nary a voice was raised against the o industry. Disasters inspired outrage and protest, but it was not directe against the industry as such. When the phrase "natural disaster" wa employed, it referred to an unfortunate conflation of natural phenomen and human action that caused loss of life, limb, or property—that i disasters caused by man's inability to control natural phenomena fully The idea that the environment was itself a victim of economic develop ment simply does not appear in any of the debates about the Galician o industry. On the contrary, every catastrophic explosion, every widely pub licized spill, and every fire caused by too much oil spurred another rus of interest in Galicia's magnificent new source of wealth. The hopes o Galicia's many oil investors were justified; suspicions that the wealth o Galician soil had been underestimated and in reality was boundles seemed confirmed. Even territories that had been given up as exhauste seemed to hold new promise of endless riches—a promise that tantalize ambitious young men far and wide.

In the mid-1880s, MacGarvey desperately sought help from Canada b advertising for drillers in local papers and sending his brother back t Petrolia to recruit them.[92] A good number of the men behind this explo sion in investment and production did come from Canada, although i is not always possible to ascertain if they came at MacGarvey's request MacGarvey's brothers, Albert and James, joined him, as did Alvin Town send, Neil Sinclair, Elgin Scott, George MacIntosh, his son, Carl, and thei relatives, George, Cyrus, and Jacob Perkins.[93] Jacob Perkins was a con temporary of MacGarvey's, born in Canada in 1855. He moved to Galici in 1885 and took a position in MacGarvey's Carpathain Company. Hi sons Herbert and Carl (born in Krosno) followed their father into the oi business. Robert Waldeck (1856–1901) and Albert Fauck were both Ger mans who went to the United States for training before settling in Galicia Waldeck was drawn to Galicia to work with MacGarvey in 1884.[94] Fauc was born in Danzig in 1842 and emigrated to the United States durin the Civil War. He acquired U.S. citizenship, but after learning the drillin trade in Pennsylvania, he moved to Galicia in 1867, where he became th first to use a steam engine for drilling.[95] But by the mid-1890s, th Galician oil industry could boast two generations of modern oilmen, an most of the younger engineers and entrepreneurs (including Szczepa nowski's own son and namesake, Stanisław Wiktor Szczepanowski) wer

Poles who had been handpicked by more established oilmen like MacGarvey and Szczepanowski. Whereas other industrialists were reputed to employ the cheapest possible labor, even in managerial positions, government inspectors credited Szczepanowski with insisting on well-trained overseers and offering employment to many young engineers and chemists.[96] These men received their training under his wing, became skilled drillers and in some cases investors in their own right, and offered Szczepanowski unwavering loyalty.

Representative of the new generation were Kazimierz Odrzywolski (1860–1900) and his brother-in-law, Wacław Wolski (1865–ca. 1919). Odrzywolski was born in Congress Poland, but when his father's participation in the January Insurrection of 1863 forced the family to emigrate, they moved to Galicia. Young Odrzywolski studied chemistry in Cracow, graduated from the Technical Institute in 1885, and then worked as a chemist in Szczepanowski's refinery in Peczeniżyn. Later he worked as a drilling engineer in Szczepanowski's oil fields in Słoboda Rungurska. From 1886 to 1893, he joined a petroleum-seeking expedition to Argentina led by Dr. Rudolf Zuber and financed by an Argentine company that chose to bring all its technical experts from Galicia. Upon his return, he and Wolski founded a company, Wolski and Odrzywolski Mining and Industrial Works, based in Schodnica. They soon engaged in oil exploration and production in Borysław and Tustanowice, as well as in other towns in Galicia and even Romania.[97] Wolski, who was described by a contemporary as a "noble man and an ingenious young engineer,"[98] studied mechanical engineering in Vienna and then joined the Austro-Hungarian navy. Before becoming Odrzywolski's business partner, he worked for Szczepanowski. An accomplished inventor, he took out several patents, including one for a hydraulic percussion drill that was used in Galicia, Russia, Silesia, Westphalia, and the United States.

Oil in its liquid form was not the only target of investor attention. The attraction of investment in the wax industry was heightened by advances in the treatment and refining of ozokerite that occurred in the late 1870s. It was the wax industry that first attracted large-scale foreign businesses. Borysław's ozokerite deposits were the largest in the world and promised to provide cheap mineral-wax candles at great profit to their producers, especially given the great expense of alternative sources of wax. With certain rewards came equally certain perils. Mining for wax was the most irrational and troubling element of the petroleum industry, at least to

outside observers. The wax industry, as it was organized before the 1880s was hazardous to workers and destructive of the environment. A plethor of small producers, most of whom were reported to be Jewish, controlle small plots of land, which they scoured for any wax deposits. They ex panded their mines with poorly monitored use of dynamite and criss crossed under one another's territory and under public roads and build ings, leading to "the sinking of public roads and houses."[99]

Careless exploitation only exacerbated the dangers inherent to wax an oil; the deeper one dug and the richer the terrain, the greater the risk. A particularly unstable section of Borysław optimistically called "the Nev World" (Nowy Świat) housed enormous nests of wax. Chief mining com missioner Heinrich Walter described the problem, "Often shafts suddenl hurl out wax from a depth of 160–180 meters all the way to the surfac with such violence that workers have no time to flee and are only pulle out after months of excavation." Mining experts agreed that what wa needed were large companies that would be capable of overcoming th technical obstacles posed by such dangerous terrain. Thus Walter wel comed large-scale foreign investment. "Mining technology will doubtles find means of overcoming the difficulties of excavation in Borysław, an then Borysław will become a mining object unique in its type. Recentl the Galician [Credit] Bank acquired the greater part of the New Worl and it has begun to renovate mining in a completely rational fashion, jus as Wolanka is now mined properly and profitably by the French Com pany."[100]

The Galician Credit Bank and the Compagnie Commerciale Française (formerly the Société Française pour l'Exploitation de Cire Minérale e Pétrole) were the first two major companies to move into the Borysław basin to exploit wax. They promised to revolutionize the way wax wa extracted, introducing a central-shaft system, in which only one vertica shaft was dug, and galleries radiated outward from its core.

The arrival of more serious wax and oil production companies brough with it advantages for the towns and villages in which they made thei homes. Some of these were by-products of the need for developments in infrastructure that accompany industry: new railroad lines were built t convey oil from producers to refiners and consumers, but could also be used to transport workers and visitors, socialists and soldiers. The local railroad connecting Kołomyja and Słoboda Rungurska, for example, was built explicitly to respond to the sudden opening of oil fields in Słoboda

by connecting them to refineries.[101] One of the first complaints of professional mining engineers who moved to a new exploration and production region was the absence of a convenient railroad station, and this was one of the first insufficiencies they lobbied to fix.[102] Because the absence of a local rail station could significantly diminish the value of oil-bearing property, landowners who had never been concerned about railways before became eager to see stations placed near their holdings.[103] When the Carpathian Company built a refinery in Glinik Maryampolski, it also built a train station on the Gorlice–Zagorzany line and a post office (both opened in 1898) and installed telephone service.[104]

Even the backwardness of some enterprises bestowed lucrative employment upon locals. Pani Straszewska, the owner of an estate in Lipinki, allowed both production and refining to take place on her property. She did not, however, allow the construction of a pipeline connecting the mines to the refinery, but preferred instead to have crude oil delivered by horse and carriage, "for in this fashion the manor horses and coachman found employment."[105]

For great Polish patriots like Szczepanowski and his disciples, Wolski and Odrzywolski, providing employment was not enough to create a new breed of noble and morally elevated Poles. Szczepanowski believed that his duties as an industrialist extended beyond profits and economic expansion. In keeping with his vision of his ethical responsibilities, he established his refinery in Peczeniżyn as a model of modern factory installation and management, demonstrating that modernization was good for both business and workers. According to the factory inspector, it was a "large petroleum factory that can be counted among the best-equipped not only here [in Galicia], but, I am justified in assuming, in all of Europe." Szczepanowski's own skills were credited for the laudable condition of his refinery: "It is equipped according to the newest advances in technology by its owner, himself a capable technical expert; he has taken particular care to protect the workers as much as possible from harmful influences."[106] Szczepanowski also looked after workers' health more directly. At a time when few employers had any interest in doing so, even when they were directly ordered by the factory inspector, he set up a health insurance association for his factory workers, built a hospital, and kept a doctor on staff, bearing one third of the expenses of the doctor's room and board from his personal funds. He also established a library and a reading room for his employees next to the factory,[107] as well as promoting elementary education.[108]

When Wolski and Odrzywolski founded a factory to produce drilling engines in Schodnica, they also founded two schools and financed a Roman Catholic church, created a health insurance cooperative, and organized an agricultural cooperative. They purchased the newspaper *Słowo Polskie* and had plans to found a large educational institution and several orphanages.[109] The Galician Credit Bank sponsored the opening of a private mining school in October 1888 in Borysław, which had the goal of "educating the more intelligent and educated mining workers and their children to create capable overseers and managers for the mining of bituminous minerals."[110] There was another school to train drillers in the Canadian method in Wietrzno (in western Galicia), subsidized by the Galician Provincial Committee. Mine owner Victor von Klobassa provided free housing and lighting in the neighboring villages of Bóbrka and Równe for students enrolled in the school.[111] These and other improvements fit into a greater trend to engage in paternalistic techniques of managing the relationship between employers and their workers. Providing for the religious and secular education of local children (i.e., future employees) was not simply a selfless act of community improvement, but rather a rational policy, in that these children were thus raised to adopt the values held by the employers themselves.[112]

Of course, industrialization, even when it was successful for businesses, did not bring only benefits to the common folk who were touched by it. Contemporaries were aware that the oil industry put great strains on local peasants even when it appeared to offer them great opportunities. For many, a life spent working in the wax mines and oil pits was no life at all. Their working conditions were dark and dangerous, their pay was meager, and government officials were surprised that the workers did not take to more radical protests of their lot.

If the oil mines brought tangible peril to the men who worked in them, they could also be treacherous to those who ran them and financed them from above the ground. No one, however popular, was immune to the damage bad luck could inflict on those who made the speculative investments that characterized the oil industry. In the midst of a decade of unprecedented investment, a prominent case of failure reminded all involved of the potential cost of trying to make one's fortune in oil. In 1899, Szczepanowski, that paragon of Polish national virtue, was involved in the Austrian oil industry's greatest scandal. On 14 January 1899, the shareholders of the Galician Savings Bank broke into a panic when rumors of the bank's insolvency abounded and caused a devastating run on

the bank. News had leaked that the bank had lent exorbitant amounts of money on credit to businesses threatened with bankruptcy—a clear violation of the depositors' trust. The rumor got started when the bank's board, having noticed that a significant portion of its reserves were mortgaged and that the debts accrued by Stanisław Szczepanowski had reached appalling levels, ordered a "restoration to profitability." By 1895, Szczepanowski's debts had reached nearly 2.4 million florins (4.8 million crowns).[113]

Even under these circumstances, Szczepanowski's reputation as a leader of Polish industry enthralled the Galician Savings Bank's director, Franciszek Zima, who continued to lend him money in the hope that Szczepanowski could thus save his enterprise. Zima seemed willing to take any risks necessary to protect Szczepanowski, who represented to him Poland's salvation. Himself a Polish nationalist patriot, Zima had participated in the January Insurrection of 1863 and was a member of the secret Liga Polska. He had met Szczepanowski during the latter's residence in England. One Szczepanowski scholar has speculated that Zima "considered the risk of illegally granting him [Szczepanowski] credit as almost a patriotic conspiracy against the servile conservative mood of Galicia's administration, a conspiracy with the goal of preserving the oil industry in Polish hands."[114] Because of Zima's generosity and Szczepanowski's inability to capitalize on it profitably, by 31 December 1898, Szczepanowski owed the bank nearly 5.5 million florins (11 million crowns).[115] As Szczepanowski slipped further into debt, Zima took steps to protect himself and Szczepanowski from the ruin that would have struck them both if Szczepanowski's debt and Zima's foolish lending had been revealed. He created fictional accounts without the knowledge of the bank's board in order to hide the scope of Szczepanowski's loans. Further evidence of Szczepanowski's charisma came when the news of his debts broke, and Wolski and Odrzywolski put up 7 million crowns on his behalf.[116]

When the story broke, Zima was accused of fraud and embezzlement (for falsifying the bank's books and for convincing Wolski and Odrzywolski to give a security under false pretenses). Szczepanowski was accused of complicity in fraud for encouraging Zima to falsify the books. The scandal that followed the revelation of the extent of his loans to Szczepanowski destroyed Zima's reputation and precipitated his death even before the trial began. The press latched on to his attachment, at age seventy-two, to a young woman named Marie Stephanie Fuhrmann.

Fuhrmann, who had been a pauper a few years earlier, had mysteriousl acquired a house worth 40,000 florins (80,000 crowns) and an accoun with the Galizische Landesbank worth another 45,000 florins (90,00 crowns) by the time of the scandal. Zima died in prison on 4 Augus 1899 under circumstances that led to speculation that he had poisone himself. The coroner claimed that he had died of a heart attack.[117]

All of the monarchy's major newspapers covered the trial, which ra from 1 October to 9 November 1899, in all its harrowing detail. Th liberal Viennese daily *Neue Freie Presse* published daily reports throughou the trial's six-week duration, including long transcripts of particularly in teresting testimony. For the first few weeks of the trial, readers were kep informed by two updates a day: both the morning and evening edition reported on the latest news received by telegram from Lviv. The Lvi paper *Słowo Polskie* (owned by Wolski and Odrzywolski and favorable t Szczepanowski) and the Cracow paper *Czas* (a conservative organ of th *Stańczyks*,[118] decidedly hostile to Szczepanowski) also reported on the tria daily. The negative publicity cast a shadow over the whole industry. Com parisons were made between Szczepanowski and Ferdinand de Lesseps and the epithet "Polish Panama" replaced "Polish California" in th press.[119]

The trial revealed the extent to which chaos had come to characteriz Szczepanowski's personal finances. He had already been threatened wit bankruptcy in 1893. His friends Wolski and Odrzywolski, wanting t rescue him from ruin, turned over the management of his business t Bolesław Łodziński, the director of the Handelsgesellschaft in Gorlice Łodziński recommended that Szczepanowski declare bankruptcy imme diately, even before he learned of his debt. Łodziński was convinced tha Szczepanowski's businesses were being run by untrustworthy character who misinformed him (politics kept him in the capital and away fron the day-to-day oversight of his companies) and led him to believe tha drillings had better prospects than they did.[120] Wolski and Odrzywolsk were anxious to spare him from the scandal that bankruptcy would caus and offered to take responsibility for his debt. In early 1896, Zima con vinced them to put up a security of 550,000 florins (1.1 million crowns).[12 But not even the unflinching loyalty of his supporters could save Szcze panowski from impending ruin.

If there is an element of the tragic in Szczepanowski's story, it lies i a decision he made in 1894. Under enormous pressure from Count Ka

zimierz Badeni to repay a portion of his debts, he sold his petroleum shafts in Schodnica, an unexplored but promising oil field near Borysław, to the Anglobank for 1 million florins (2 million crowns; 40 percent in stocks and 60 percent in cash) only two years before the explosive discovery of Jakób.[122] In 1893, 10,000 tons of crude oil were produced in Schodnica; in 1894, 21,000 tons; in 1895, almost 84,000 tons; and in 1896, 189,360 tons.[123] By 1899, these shafts had come to be worth 15 million florins (30 million crowns), more than enough to cover Szczepanowski's entire debt.[124] To make matters worse, Szczepanowski sold the oil fields in order to protect his investment in coal mines in Myszyna and Dzurowa, which never produced any profit. In his trial, he explained his decision: "I was mistaken regarding the value of the coal mines and preferred to get rid of Schodnica rather than the coal mines." But by the time his debt was exposed, his "seventy-eight shares in Galician coal mines" were considered "absolutely worthless."[125] One of oil's greatest champions thus was driven to ruin when he lost faith in his own product.

Although his advocacy of rejuvenation through industrialization and modernization required that he become involved in business, Szczepanowski's character seemed ill suited to the task. Believing that modernization was possible only if it was built upon the foundations of a moral revival of the nation, he combined a call for rapid industrialization with what one historian has called a "strong anticapitalist bias."[126] Thus his emphasis on investment, infrastructure, and industry was combined with contempt for some of the values that they required. During the trial, Szczepanowski portrayed himself as the hapless victim of his own ignorance rather than a conniving embezzler. According to his testimony:

> When he returned to Galicia, he got involved in trade for the first time. . . . In the practice of this new profession, he was truly met with good fortune initially. A new California arose in Galicia. One constantly found new, very productive petroleum sources. However, there were great technical obstacles one had to overcome. The oil fever that prevailed throughout Galicia attracted numerous foreigners and caused the defendant to undertake geological investigations, deep drilling, and investments that turned out to be a great loss of capital. Now, since his funds did not suffice, he tried to get advances. . . . He did not understand how to protect his own interests.

Szczepanowski testified that fate had played against him. Just when it looked as if he was going to start making some money, he was unfairly

hampered by competition from smuggled Russian distillates. All his at tempts and those of his fellow oilmen to get the government to protec them were in vain. In the midst of this mess, "The defendant, as he claim was elected to the imperial Parliament without having run for offic There he took the interests of the petroleum industry, and thus also hi own, under his wing and stood up against customs abuses. His parlia mentary career, however, led to a change in his relationship with hi former colleagues (Biedermann and Company). Politics and business di not allow themselves to be mixed."[127] Szczepanowski explained that how ever valuable his political activity may have been in the long term, it kep him away from his oil business. He spent six months of the year i Vienna, another month and a half in the Galician Provincial Diet, an one month in the delegations, thus spending nearly three-quarters of th year on activities not directly related to running his business.[128]

To make matters worse, Szczepanowski's luck began to run out. Afte a few early lucky guesses, which gave him the feeling that he could prac tically smell oil, misplaced hopes in oil deposits invisible deep below th Earth's surface proved that he was no diviner. Szczepanowski had to ac knowledge that "when it comes to discovering oil territory, the rule is, a it turned out, that there are no rules. In the tremendous petroleum com motion of the early years, which brought Englishmen, Americans Frenchmen, Spaniards, and Germans to Galicia, he dared—against hi earlier resolution—to found a company on a large scale,"[129] although h had no experience in running such an enterprise. He and his family in vested 90,000 florins (180,000 crowns), but, given the high cost of lan leases, he soon found that he needed ten times that much capital.

After thirty-three days in court, a jury of Szczepanowski's peers (mer chants, businessmen, and civil servants) acquitted him unanimously or all counts. But Szczepanowski was a broken man; he died less than a yea later, a month before his fifty-fourth birthday.[130]

During the trial and in its aftermath, defenders and opponents o Szczepanowski alike linked his fall to greater issues. In his memoirs, oil engineer Stefan Bartoszewicz recalled, "At that time, we all felt that the honor of the oil industry was engaged in the proceedings of the trial."[13 This was not merely a question of fiscal incompetence, greed, or the whims of fortune. Rather, Szczepanowski's rise and fall were tied to ques tions of Polish patriotism in an age of fragile reconciliation to autonomy within a partitioned Poland and of social reform and the economic rev olution that accompanied it. Szczepanowski's defenders included celeb

rities from Russian Poland, such as the renowned author Bolesław Prus and Władysław Rabski, who referred to him as a "tragic hero." A young associate compared him to Job.[132] His friends argued that he was a man of greatness brought down by the mediocrity of the world around him, the "greatest of contemporary Poles."[133] Wolski claimed that Szczepanowski's *Nędza Galicyi* had been the inspiration for a generation of democratically inclined industrialists. Odrzywolski attributed his downfall to his failure to account for the baseness of other people.[134] At his funeral, he was lauded as a man with the will and the ability to return Poland to the center of Europe: "We waited for him as a hungry worker awaits the arrival of the innkeeper, for the specter of misery or earning a daily wage from foreigners had already begun to sneer at us. He came—he appeared." His fall was caused not by his own weakness, but by the greed of outsiders, indifferent to Poland's fate: "Foreign capitalists block[ed] his path, paralyzing and truly wishing to destroy in the bud and annihilate that which Szczepanowski created and took such pains to cultivate: the children of his spirit and his creativity."[135]

But it was not only foreigners who stood in Szczepanowski's way. Although he did not mention them directly, Szczepanowski's eulogist did not fail to point the finger at Galicia's conservative elites, who favored agriculture over industry and whose refusal to support the growth of industry kept their province in a state of wretched poverty. Agriculture, he argued, was no longer sufficient to support life: "Today agricultural conditions are so difficult, the expenses so enormous, that if a farm is not supported by an industrial branch's exploitation of the soil, then it can only vegetate from day to day, never blossom."[136] From the vocabulary of enlightenment and education, the industry's defenders now turned to the vocabulary of the agriculture they hoped to replace. Szczepanowski's mines, his vision of derricks, steam engines, and pipelines crisscrossing the Polish landscape—this is what would allow the land to "blossom."

Szczepanowski's opponents also allowed Szczepanowski's trial to become the forum for a debate on the merits of democracy and socioeconomic change. Not even they seriously accused him of embezzlement for the purpose of personal gain. Szczepanowski was incompetent, his penchant for democracy led him, predictably, in the mind of conservatives, to exercise bad judgment. While claiming to represent morality and the best interests of Poland, he had proven himself to be at best amoral, if

not immoral, in his financial dealings. They emphasized the damage tha Szczepanowski had done to Poland's reputation and to the national prid of Poles. No less could be expected from such a "democrat." Accordin to the commentary of Ludwik Straszewicz, courting Galician conserva tives in the Cracow journal *Kraj,* it was the fault of Szczepanowski's so that so much of Polish industry had fallen into foreign hands in the fir place. Given his recklessness, gullibility, and excessive belief in the wor of the people, "it [was] very likely lucky for Galicia that Szczepanowsl broke his wings as an industrialist."[137] Conservatives tried to prove tha Galician Savings Bank funds had been used to finance the Polish Dem ocratic Party and the publications of its press organ, *Słowo Polskie,* an the leader of the conservative Stańczyks, Stanisław Tarnowski, claime that Szczepanowski's acquittal was further proof of the worthlessness c jury trials. The *Ruch Katolicki* called Szczepanowski "an apostle of th corrupted morals of great capital."[138]

Conservatives' criticism of Szczepanowski did not soften after his de mise. In the obituary published in the conservative newspaper *Czas,* h was described as "a brilliant representative of political and economic ro manticism, who in contact with cold reality had to surrender to sad de feat. In him were strangely combined a thorough knowledge and an un paralleled impracticality in the field of technical enterprises, which wa in him the usual result of blazing fantasy, not resting on real foundation This was the origin of the mistakes and errors committed in this field and this led him to the final catastrophe."[139]

Both sides seemed to agree that Szczepanowski's trial represented mor than his own individual fate. Nevertheless, while they were willing t explore broader questions relating to Galicia, Poland, honor, and prestige neither newspapers, eulogists, friends, nor foes questioned the reason why Szczepanowski had to supplement the funds he raised legally witl others secured through connections, personal charisma, and the patri otism of like-minded Poles. Whether Szczepanowski was to be com mended as too good for this world or condemned as foolish and "ro mantic," all agreed that the problem lay with Szczepanowski himself. An while the normative value they attributed to his character differed widely there was surprising agreement on what that basic character was. Lon before the outbreak of the scandal, the author of a book of sketches o parliamentary delegates foreshadowed descriptions of Szczepanowsk made after his death. In a tone that was simultaneously affectionate an

condescending, Szczepanowski was described was well-meaning, naïve, and misguided. "[He] has learned and observed much, but does not know how to reconcile the observed with the learned"—this was, after all a man who was both an experienced economist and an incompetent businessman. "He uninterruptedly founds companies that earn money for others. He allows careerists, who like to hide their own lack of character in the shadow of his naïve honesty, to exploit his indestructible drive to work and his wealth of knowledge. . . . [He is] an educated, hardworking, altruistic man, but at the same time confused in his ideas and goals like no other. A man of progress who cluelessly pulls forward like a workhorse without noticing that he is hitched to the cart of reaction."[140]

Like MacGarvey, Szczepanowski invested in refining, as well as production, a fact that indicates some appreciation for the benefits of vertical integration (it was his investments in exploration and production, not refining, that were his downfall). But unlike MacGarvey, Szczepanowski did not focus exclusively on the business of running a business. MacGarvey was an oilman first and a Canadian second. Szczepanowski thought that he could force oil to do his bidding, but was forced to recognize that this was beyond his power. Nevertheless, the rhetoric of oil as a tool of national regeneration that Szczepanowski employed to such great effect outlasted his own personal disaster. Throughout the next decades, Galician producers (including MacGarvey) warned of the danger of too much foreign involvement in Galicia and thus in Polish industry. Although Austrian officials might laud the improvements brought by foreign investors and managers (as did the factory inspector in his reports on the wax industry), Poles were wary lest profits derived from their soil fill foreign coffers. As foreign investment increased and international tensions sharpened, even government representatives began to view the nationality of those who controlled the industry with concern. In an era of overproduction and brutal competition for international markets, the battle over what was good for Galicia became a battle between those who advocated what was good for the empire, what was good for Poland, and what was good for business. At the same time, the dissonance between what was good for elites and what was good for those at the very bottom of the pyramid became starker than ever before.

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The Boys Don't Sleep at Home

Workers' Dreams of Wealth and Independence

While the vision and risk tolerance of oil entrepreneurs are essential i jump-starting an industry, entrepreneurs are powerless to realize thei dreams without the assistance of the skilled and unskilled workers wh make their companies run. The oil and wax industry officially employe 11,944 workers in 1897,[1] but this number did not include any of th thousands of workers who came to the oil fields for a day or two at time without ever appearing on employers' rolls. How did these worker fit into Galician society? What were their motivations and interests? De scribing the men and women who worked in the Galician oil industr today is as difficult as understanding them was for government official and socialist agitators at the turn of the twentieth century. The difficult stems from the dizzying diversity of this group, which makes speakin of workers as a coherent collective well-nigh impossible. Here wer Ukrainian, Polish, and Yiddish speakers, local peasants and travelers fron afar, destitute Jews picking wax from piles of rock and highly traine master drillers from technical colleges in the Austrian Empire and abroad registered workers listed on payrolls and casual day laborers who appea in no statistical compilations.

One thing is clear: oil workers did not act as Galicia's revolutionar class. Skilled workers, including drillers, stokers, smiths, and boiler makers, were well paid and well respected. Unskilled workers were nei ther, but nevertheless were resistant to socialist rhetoric. This was not cadre of peasants who had abandoned their farms to devote themselve to industrial work, but rather a huge number of workers who filtered in to oil towns seasonally, when they needed a little extra cash, or wher there was less work back on the farm. Unskilled workers in the oil pit