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Under the spell of oil:

The Making of the Global City of Ploiești (Romania), 1850-1940

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Under the Spell of Oil: The Making of the Global City of Ploieşti (Romania), 1850-1940

From Cakes to Kerosene

In 1838, Ploieşti, a small town a short distance from Bucharest, the capital of Wallachia, had just over 10,000 inhabitants. Only six of the inhabitants had traveled more than 1000 km, either to study at Western universities or to explore the business opportunities that the industrial revolution had created in various European regions. After one such trip abroad, the brothers Marin and Theodor Mehedinţeanu, owners of a small pastry shop in Ploieşti and leaseholders of oil fields in the Prahova region, realized like few others the enormous potential of their home region's oil deposits for developing a profitable business based on the production and marketing of kerosene lamp [petrol lampant]. The kerosene lamp, which was much cheaper and easier to transport and store than gas, was increasingly used for public lighting in European cities.

However, the immediate motivation for the brothers' Western European adventure was quite pragmatic: in 1856, the Bucharest city council announced its intention to use kerosene for the city's public lighting. Although the Mehedinţeanu brothers won the auction, in which several local companies also participated, the contract was canceled because they were unable to fulfill their obligations. Having recognized the potential of oil production, Marin and Theodor set about building an industrial structure that would enable them to meet the local demand for the kerosene lamp. The problem was the technology, which was not available in the country. Just a few weeks after the conclusion of the auction in Bucharest, Theodor Mehedinţeanu used some of his brother's savings and traveled to France and Germany, where he acquired the oil distillation plants of the Hamburg-based company Moltrecht&Co. As a result of this technology transfer, they built the first oil refinery ("gas factory") in Romania at the end of 1856 on a four-hectare plot of land at 174 Buna Vestire Street. Shortly afterwards, they also submitted an unbeatable price offer to the Bucharest city council and secured the contract for the city's public lighting in 1857. Their products were also commissioned by the municipalities of Ploieşti, Buzău, Brăila and Iaşi.

The business gradually diversified to include the extraction, processing, and distribution of oil products. Until his death in 1861, Marin Mehedinţeanu managed the refinery in Ploieşti, while Theodor moved to Bucharest to oversee distribution. In 1880, Theodor was appointed one of the

directors of the Romanian National Bank. It was perhaps no coincidence that Theodor Mehedințeanu had the addition "entrepreneur" next to his name in the documents of the time. As for the fate of the "gas factory" in Ploiești, it was sold in 1899 and subsequently changed ownership several times. In 1933, the first refinery in Romania and one of the first in the world, at that time under the name Societatea Anonimă Luciana (Luciana PLC), was closed due to the financial crisis and competition from the city's large refineries.

From Gas Factories to Refineries

The Mehedințeanu brothers' refinery was a bold venture that made them global pioneers in the oil industry. There were also similar companies in Poland and the USA at the time. As a result of their activity, in 1857 Romania became the first country in the world with an officially registered oil production of 275 tonnes (220 tonnes in Prahova). Although the facilities were primitive and all the equipment consisted of cylindrical iron or cast-iron vessels heated directly with wood fire, the business marked the beginning of a long and complex transformation of Ploiești and the Prahova oil region.

The success of the Mehedințeanu family served as a role model for other local entrepreneurs. However, despite the initial enthusiasm, the path from idea to success proved difficult and was fraught with various obstacles. For example, the oil fields were more or less far from the city, and the crude oil extracted around Ploiești was for a long time transported by cart for processing in the city's refineries; the kerosene and bunker oil were then transported in turn by cart for marketing in the Danube ports of Brăila and Galați. Economic activities were hampered by the unpaved roads and the relatively long distances between the extraction fields, the processing sites and the seaports and inland ports. Although local producers repeatedly complained that the delays in delivery caused by the state of the roads affected their credibility with international business partners, the situation gradually improved after 1870, when construction of the Ploiești Railway began.

From Rafinăria Astra to Societatea Astra: The Breakthrough

One of the refineries founded in Ploiești following the example of Mehedințeanu brothers was Ion Niculescu-Bazar's 'gas factory'. Opened in 1880 in the Saint Filofteia neighborhood – a marginal district situated in the south of the town, beyond the Ploiești beltline, yet close to the newly built train station Gara de Sud (1872) – it was a small enterprise that used simple equipment and rudimentary distillation technology. Nevertheless, the high demand for kerosene lamp on the domestic market led to a certain commercial success, which further made the owner acquire land near his factory and expand the distillation capacity. Despite this success, Niculescu-Bazar decided to sell his small refinery in 1887 and focus on oil extraction mostly because the latter required less investment and proved far more profitable in the short term. In 1901, the factory was bought by Max Schapira, a local entrepreneur and banker who expanded and reorganized the old enterprise, which he also renamed Astra Refinery.

Under Schapira's management, oil processing capacity doubled in a year. The vast majority (90%) of the products refined here in 1905 were exported, primarily to the Ottoman and the Austro-Hungarian empires. The spectacular growth of exports was due to the investment in imported technology and know-how but also to the impressive modernization of the transport infrastructure over the previous decades. After 1880, rail transport of oil products from the Prahova region gradually increased; Ploiești, with the Gara de Sud station (opened in 1872), had already been included in the previous decade in the rail routes Bucharest-Ploiești-Buzău and Bucharest-Ploiești-Câmpina-Predeal. The completion of the rail bridge over the Danube (the Borcea arm) in 1895 enabled the extension of the rail route Bucharest-Fetești towards the Black Sea. It facilitated the transit of goods and people from Muntenia and Moldavia to the port of Constanța. By 1900, Ploiești was surrounded by a rail network that linked the south of the country and the capital Bucharest to Transylvania, Moldavia, and Dobrogea and ensured the transit of goods from Prahova to the national borders, including the Danubian and maritime ports.

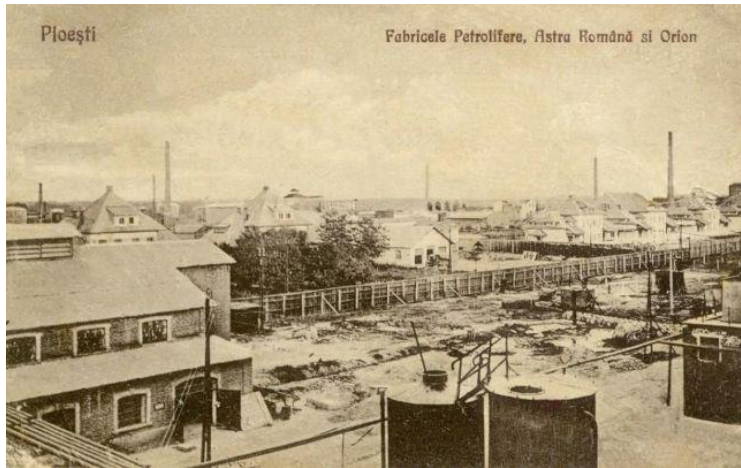
In 1906, Astra Refinery was bought by the Dutchman C.M. Pleyte who set up Societatea Astra in 1907 to extract, refine, and distribute oil and oil derivatives, financed by Dutch capital (Royal Dutch Petroleum Company and C.M. Pleyte & Co. owned equal shares). Astra became a subsidiary of Royal Dutch Shell, founded in April 1907 through the merger of Royal Dutch Petroleum Company (Holland) and Shell Transport and Trading Company Ltd. (England). From this point forward, the oil processing capacity of the Ploiești refinery would continue to expand and modernize.

Diversification through Internationalization, 1910-1920

Between 1910 and 1911, Societatea Astra merged with Regatul României (The Kingdom of Romania), a company that had been set up in 1905 by the German financial groups Schaffhausen Scher Bankverein and Internationale Bohrgesellschaft, and it became Astra Română (Romanian Astra). The new company's capital remained predominantly Dutch as a subsidiary of Royal Dutch Shell. Regatul României contributed to the new company with exploration and extraction equipment and, most importantly, with their rich oil fields in the Prahova region (in Moreni, Băicoi, and Câmpina). Following this merger, Astra Română became one of the leading Romanian oil and oil derivatives producers during the first half of the XXth century.

Over the following years, the management launched a comprehensive process of expansion and modernization of the oil processing facilities, especially the one in the old Saint Filofteia neighborhood. These financial efforts achieved the diversification of oil products in line with the new demands of the external market. Although kerosene remained an essential part of the company's total output, new investments provided the necessary infrastructure for the diversification of refined oil products, particularly the production and distribution of petrol. The modernization of Astra Română was completed in 1914, with the setting up of an innovative installation that used a procedure for the extraction of kerosene patented by the Romanian engineer Lazăr Edeleanu in 1908 at Vega, another Ploiești refinery, owned by a company with German capital: Disconto Gesellschaft. The Edeleanu method of oil refining, as it would remain known in the history of petrochemistry, relied on increasing quantities of sulphuric acid, sulfurous

acid, and even sulfur dioxide in liquefied form to ensure the separation of the composing elements and to optimize the burning of kerosene. The discovery would revolutionize the kerosene market and ensure exceptional qualitative improvement of the refined product, which thus burned completely, without smoke or smell. Following this massive technological development, the refinery became the second in the country in terms of annual oil refining capacity.



The advantageous location of Astra Română in the proximity of two railway stations (Gara Ploiești Sud and, from 1915, Triajul Ploiești) increased the possibility of rail transport for refined oil products. The rail route between Ploiești and Slobozia, inaugurated by the council of Prahova county in 1910, shortened the rail route Ploiești-Constanța by 50 km and

contributed to the optimization of rail transport. Goods were delivered by rail to the ports on the Danube (Brăila, Oltenița, Galați, and Giurgiu) or to the port of Constanța on the Black Sea. Most of the Romanian products were subsequently exported to Egypt, Italy, or Austria. By 1910, Astra had already set up installations to export oil from Constanța. A year later, it bought a ten-hectare plot near the port to build more oil tanks. The Romanian company also had at its disposal the oil tankers of the Koninklijke Shell group, and it became increasingly evident that sea and river transport would have provided a vastly more profitable alternative to rail transport.

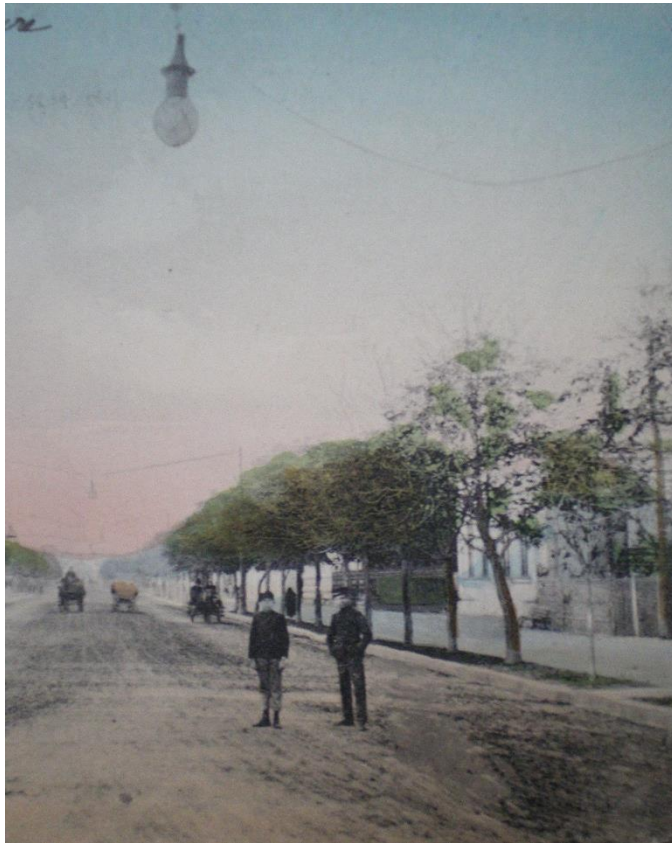
Increased demand for oil products on the external market required restructuring the national transport system since rail transport was difficult, mainly due to inadequate train engines. Over the following period, the producers of Ploiești signed special agreements with CFR (Romanian Railways) for the preferential exploitation of the railway infrastructure, yet the constantly increasing demand for oil products and the expansion of production capacity compelled the management of the refineries to look for alternatives to rail transport. The representatives of Astra Română and other companies involved in oil exploitation became increasingly preoccupied with developing a pipeline network for oil transport as well as facilities for the loading and unloading of oil at the ports of Constanța, Brăila, Giurgiu, and Oltenița. The representatives of Astra even applied for permission to construct an oil pipeline between Ploiești and Constanța, but this was turned down. In March 1912, the building of a pipeline for 'the transport of crude oil and kerosene from Băicoi to Constanța' was legally stipulated. The pipeline route for crude oil and kerosene was set via Băicoi-Ploiești-Buzău-Făurei-Fetești-Cernavodă-Constanța Pod, with its building and exploitation entrusted to CFR.

The building of the pipelines of over 300 km in length continued at a good pace, apart from the stagnation during World War I, which meant that they became functional in 1919 instead of 1914 as initially estimated. Before World War I, various oil companies had established a vast pipeline

network to transport crude oil from the oil exploitation areas to refineries and oil tanks. By 1913, the network across the county of Prahova amounted to approximately 1500 km, with Astra Română owning 227 km of the main pipelines, including the longest pipeline in Romania of 43 km, which connected the Moreni oilfield to Ploiești via Filipești.

Beyond the Gates of the Refinery

While during the final decades of the XIXth century, the social impact of the oil industry had been insignificant as it had contributed only to the prosperity of a few small-enterprise owners of Ploiești, the situation changed substantially at the beginning of the XXth century when the effects of the arrival of the oil industry were noticeable in several socio-economic strata and generated remarkable transformations. A small industrial revolution may be said to have occurred in Ploiești between 1895 and 1916, leading to the impressive evolution of the municipality over a short period.



The following epigram, which circulated in Ploiești at the dawn of the XXth century, shows the reality of town life: ‘You levy high taxes/ Yet the town looks so mean. /Our streets are unswept/ Our purses picked clean’ (Ion Ionescu Quintus). It was obvious that, in the absence of major contributors to the local budget, the taxes paid by the citizens and by the craft workshops and local stores were insufficient for the development of the town. The situation changed over the space of only two decades through the emergence of the large refineries, which made a significant contribution to the municipal budget, and which enabled the town of Ploiești to acquire the characteristics of urban modernity: sewer, water, electricity, gas, and telephone lines were introduced; the streets were paved, and modern residential districts were built

in addition to the elegant villas that began to frame the main roads. Yet these changes were merely the outcome of transforming the periphery where the oil industry had started to function. Between the residential areas and the beltline, there was a series of fields destined for the cultivation of wheat, maize, and grazing; beyond the beltline, agricultural land with strongly medieval traits continued to dominate. Yet over the space of only two decades, from 1900 to 1920, substantial agrarian land beyond the Ploiești beltline changed its destination, and the wheatfields were replaced by refinery facilities, concentrated on the south-north axis and subsequently on the east-west axis of the city.

From a demographical perspective, the censuses of 1899 and 1912 show an urban population growth of 25% over a single decade (from 45107 to 56460 residents), with the annual increase of 1000 residents stemming from the relocation of the workers employed by the refineries built between 1896 and 1912. The development of the local industry, particularly the oil industry, accounted for 60% of the demographic increase, with 30% of the active population employed in industry and a majority of these in the oil industry. The development of the oil industry had an impact on the ethnic and religious make-up of the city: in 1899, 3 British citizens and 126 German citizens were registered as residents; in 1912, the number of British residents reached 22, and that of German residents 257, with 42 Dutch citizens also figuring in the latter census versus none in the former, following the takeover of Astra by Royal Dutch Shell. Other recorded nationalities were Belgian, Swiss, Dutch of Greek origin, Italian, Hungarian, Russian, Serbian, and Turkish. Yet from a numerical perspective most foreign residents came from the Austro-Hungarian Empire: 2273 in 1899 and 2254 in 1912, which can be explained by geographical proximity but also by their background as specialists attracted to the area by the boom of the oil industry.

‘Every Crisis is an Opportunity’: The Making of a Region, 1920-1940

One of the lessons learned by the international community after World War I was that relations between states no longer depended only on their military and economic capacity but also on their access to crude oil. As peace became more attainable, the benefits of the newly invented diesel engine for the development of industries and transport became obvious, thus ensuring a viable long-term alternative to the steam engine. The postwar context offered an excellent opportunity for the Astra shareholders to reposition the company as a key player in the international oil market.

A first step was to modernize the oil processing facilities to meet the market’s new demands. As a result of the investment made with Anglo-Dutch capital, the refinery was equipped with the latest technologies used by Western European and North American producers. After 1920, some of the distillation methods used before 1916 were discontinued in favor of more efficient ones (cracking and fractional distillation). Modernization required a significant capital injection of up to 50% of the annual profit. The investment in new technology was also made possible by war compensations of approximately 1.75 million GBP, granted at the end of the 1920s as tax relief for the destruction caused in 1916. Modernization in the inter-war period was primarily achieved through the import of extraction and refining equipment since Romania had not yet developed an industry to meet this demand, with local innovation being weak and without the replicating power that had characterized Lazăr Edeleanu’s invention. For these reasons, the technology overhaul focused on five thermal cracking installations of the Dubbs type (1926-1931), but also on facilities for producing white spirit, asphalt (1929), and liquefied gases. Temporarily halted in the context of the economic crisis of 1929, the investment in new technology was resumed in 1934 and continued at a steady pace until 1940. In 1934, two new installations were introduced, a Pipestill and a Trumble-Vacuum, destined for the production of mineral oils. The company also acquired several Ploiești factories that specialized in producing oil coke, petroleum ether, or liquefied gases. This mobilization led to the growth of the capacity to process crude oil and the diversification and qualitative improvement of Astra products. In 1930, the refinery ranked first in Romania for oil products obtained through cracking (petrol, diesel, residual fuel oil, oil coke, etc.)

Alongside the technology overhaul, investment also covered the purchase of land in Ploiești for the placement of the new utilities. In 1924 the surface occupied by Astra almost doubled (from 18 ha to almost 36 ha) and it would continue to expand (in 1943 the refinery occupied 53 ha, with space available for further expansion). The modernization of the refinery also changed the surrounding urban landscape: utilities and giant tanks were built as well as edifices and industrial halls, a power plant and subsequently an entire infrastructure of sewer, water, gas, and telephone lines. Since processing capacity surpassed oil extraction capacity, Astra Română used the modernized refinery to process crude oil for other companies that extracted it from the Prahova region.

These quantitative and qualitative leaps transformed Astra into the main Romanian exporter of oil products, with a market share of approximately 20%. Apart from oil coke and asphalt, which were produced mainly for the domestic market, all the other products (bunker oil, refined oil, light and medium petrol, diesel) were mainly sold abroad. Turnover increased exponentially from one year to the next and the trend continued even during the 1923-1926 interval despite a series of national regulations that limited the export of products such as mazout and diesel, considered vital to the functioning of Romanian industry.

The significant export activities of the company were due to a combination of factors: the quality and quantity of the oil products of the Ploiești refinery, adapted to the demands of the external market; high storage capacity; access to an excellent infrastructure of rail, river and sea transport (access to the ships of the Royal Dutch Shell group); the establishment of advantageous commercial partnerships for external distribution (e.g. the contract signed with the external distribution network of Asiatic Petroleum Company, which proved extremely useful, especially at the time of the global economic crisis).

The spectacular development of Astra unfolded at a far more rapid pace than that of the Romanian state in many respects, which meant that growth discrepancies soon became noticeable as the economic activity of the refinery was hindered by the still deplorable state of the transport infrastructure. While in the pre-war period, the refinery had relied substantially on the national distribution network, the company did its utmost to consolidate its autonomy in the inter-war years. In addition to setting up its own delivery company, Astra developed an alternative transport system for raw materials and refined products. The purchase of 600 tank wagons in 1920 increased its fleet to over 1600. A partnership signed with CFR enabled the building of a rail control center at Fetești and the opening of new sidetracks at the Ploiești Sud rail station. This ensured the access of Astra products to the most crucial rail routes at the time: Bucharest-Constanța-the ports on the Danube (Giurgiu, Oltenița, and Orșova) and Bucharest-Brașov-Curtici (the western border of the country). The company also invested significantly in building new pipelines for refined and bunker oil. In 1919, the Băicoi-Constanța pipeline was repaired and put into operation; begun in 1912 and partially destroyed during the war, it was equipped with pump stations at Băicoi, Ploiești, and Bucharest. Also, in 1919, the pipeline that connected Ploiești to the Danubian port of Giurgiu was repaired and put into operation; its construction had been started in 1917 by the German

occupation army. Following these investments, Astra came to own around 250 km of pipelines out of a total of 750 km.

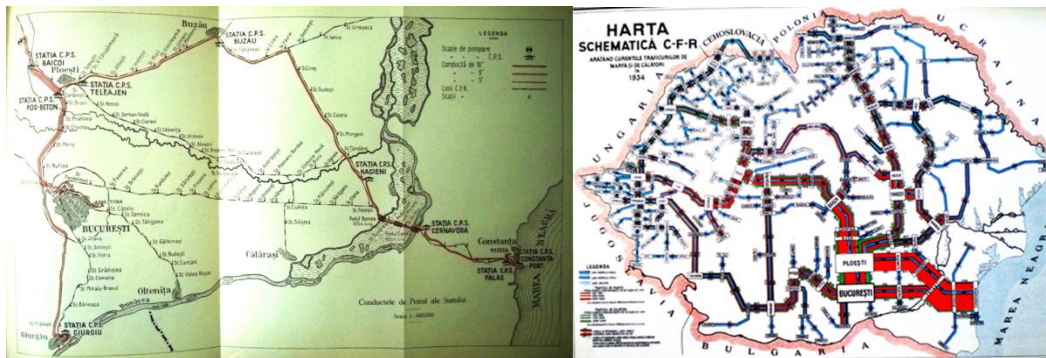


FIGURE 1: STATE-OWNED PIPELINES IN PLOIESTI AREA, SOURCE: CRISTEA BEDREAG, 'OIL PIPELINES', REVISTA CFR, 1935, 22 (9-10): 321-337

The expansion of the pipeline network represented an essential step in stimulating export. After 1920, the port of Constanța grew in importance. The city possessed all the necessary facilities for the reception, storage, and transfer of oil and oil derivative vessels and their shipment to Western Europe and the Mediterranean basin (France, Italy, England, Egypt, Greece, and Tunisia). Alongside the Black Sea port investments, Astra also modernized its infrastructure to expand river transport. To stimulate export to the center of Europe, the company set up the Oltenița oil station via the Danube, modernized the port of Giurgiu in 1931, and set up a shipping company, Danubius, to handle oil transport across the Danube to Regensburg. In addition, in the 1920s, Astra Română succeeded in the creation of a proper 'fleet of the Danube'. Formed of nine oil tankers, it ensured the transport of products to Germany, Austria, Czechoslovakia, Hungary, Yugoslavia, and Bulgaria.

Strange Encounters...

Due to effective organization, significant technology overhaul, technological innovations, the diversity of the oil products, and the rigorously maintained workplace discipline, the Astra Română refinery managed to become a nationally and internationally significant industrial hub. On the one hand, as Romanian oil was exported further afield, the number of foreign delegations coming to Ploiești to visit the refinery increased. It is enough to record that in the inter-war period Astra Română was visited by the Crown Prince of Sweden Gustav Adolf, by the prime minister of Yugoslavia, and by delegations from Japan, Poland, England, Germany, and France. On the other hand, this influx of foreign delegations, justified by the interest of Western partners in the Ploiești oil products, also generated instances of industrial espionage. The most significant was the event of 1922 when on the night of the 12th of May, the managing director of Astra Română, Van der Waerden, was attacked and shot, and the plans for the expansion and modernisation of the company were stolen from his safe. It later emerged that the coup had been ordered by the Englishman Thomas Masterson who represented the interests of another oil company in Ploiești. The Englishman hired people from the local underworld to carry out the mission. They came up with a diabolical plan involving the lover of one of the accomplices, who became employed as a housekeeper in the director's house and won the family's trust. She was the one who provided the details of the layout of the residence and of the place where the safe with the secret work

documents was located and also the one who opened the door of the house to the robbers on the night of the attack. Unfortunately, the noise they made awakened the director's wife so to complete their mission, they shot the couple, seriously injuring them both, and they stole the documents and various goods to deceive the police into thinking this was robbery and not the theft of strategic documents commissioned by business rivals. The police would learn these details much later when they fortuitously discovered the inner workings of this affair.

The expansion of processing facilities made Astra the most significant national company in this sector and one of the leading employers in the region. The number of employees increased each year, up to 6350 people registered in 1938 as working in the oilfields, at the refinery and in central and external services. Two thousand five hundred people worked at the refinery in Ploiești and the remainder at the wells and on the oilfields in 20 localities, including Câmpina, Moreni, Băicoi, etc. The workers' career progression entailed several stages: unskilled, apprentices, novice, and fully qualified workers. While most of the workers were ethnic Romanians originating from Prahova and the adjacent counties, the proportion was reversed for the managerial staff who mainly came from Holland, England, Germany, or France. The excellent salaries offered by Astra also attracted highly qualified personnel from Romania. Selected based on their competencies, previous experience, and qualifications, a few Romanian engineers benefited from professional training in the West. Numerous opportunities were available for the highly qualified personnel, including working abroad at the branches of Royal Dutch Shell, as was the case of the engineer I. Cristea transferred to The Hague, of Gheorghe Rădulescu in Paris, or the engineer Al Pușcariu in Venezuela. Another great opportunity was the permanent access to publications in English, French, and German, which arrived from 15 countries on two continents. During the summer, students were sent to Astra for practice not only by the Romanian universities and polytechnics but also by those from Western Europe, in particular from England.

Astra Română always knew how to adapt to local realities and the Board of Directors played an essential part in this. Starting from 1910, when the first board was set up and until the end of the 1930s, its composition reflected an interesting strategy: on the one hand it included important members of the financial-banking sector of Germany, France, Holland and England and, on the other, it appointed important figures of Romanian public life. Duties were of course divided: some related to the international sphere and to the defence of national interests abroad while others related to influencing Romanian political decisions in the oil sector. Because most members of the board lived in Bucharest and because the board had to react quickly in relation to the central authorities, the meetings took place at the Bucharest headquarters while Ploiești functioned as a showcase of Astra Română where visits were organised for business partners, various specialists etc.

Among its many duties, the board represented Astra Română in relation to the Romanian authorities. This is why the policy of appointing and involving people who were influential in Romanian politics was reflected in the presence on the board of former prime ministers Constantin Coandă (Oct.-Dec. 1918) and Gheorghe Mironescu (1930-1931), of the future prime minister Armand Călinescu (1939), of ministers like Dimitrie Gusti and Grigore Cantacuzino and the diplomat Alexandru M. Lahovary. With their help, the Astra leadership hoped to be able to

influence Romanian politics and protect company interests. An excellent example of this is when, in 1924, the PNL government adopted the mining law which sought to support Romanian capital and Romanian interests in the oil industry, general C. Coandă stated that a new cabinet led by Alexandru Averescu, the leader of the People's Party would change the law. The subsequent law of 1929 on the oil industry regulation was favorable to foreign capital, which shows the effectiveness of the lobbying by the large companies and implicitly of the Astra Board of Directors. On the other hand, the board included personalities like Henri Deterding (1866-1939), managing director of Royal Dutch Shell, who was a member from 1910 until he stepped down from his managerial position in 1936. Deterding first came to Romania to see the refinery in Ploiești and the Astra-owned oilfields in Prahova County. He made another visit in 1931 when he came to Bucharest to negotiate an agreement with other oil companies on limiting production in the context of the economic crisis. His successor, the new managing director E.F. de Kok, visited Ploiești six years later and subsequently the oil regions to become acquainted with the local context. Another personality on the Board of Directors was Camille Blondel, a French diplomat with connections in the Western and Romanian political world.

Meanwhile, the socio-economic reality and the urban landscape transformed under the influence of Astra's employee policies. The workers' welfare and increased purchasing power positively affected the local community, while education and the values assimilated by the workers started to influence the community. In the inter-war period, a series of communal buildings were erected in the proximity of the refinery, which was situated in the southern zone, outside the Ploiești beltline: a canteen, a club, a medical facility, and living quarters, namely six buildings with a capacity of 300 beds for the workers on night shift. The building of these edifices had a double rationale: they provided social services and entertainment – the canteen, the medical facility, the club – as well as financial benefits for increased staff motivation and loyalty. A number of buildings were available as free accommodation and as a benefit for highly skilled employees, which on the other hand meant that staff was available and ready to intervene in the event of an emergency. Even the director of the refinery benefited from an elegant villa on the premises. This veritable district was called the 'Astra Română colony'. The group of edifices built to fulfil social needs did not have the usual dimensions of a district; it was merely a Western isle which asserted the power of the oil industry. A beach, football pitches, and tennis courts were built in Ploiești. The appetite for entertainment and leisure led most workers to participate in the activities of the Astra club. There was a tradition for the clubs' teams to participate in competitions in Ploiești in the 'Van der Meer Cup', named after one of the Dutch directors of the company and the initiator of the competition. The engineer Van Der Meer came to Romania in 1911 and worked here until 1938 as the technical director of Astra. He lived in Ploiești where he introduced Western pastimes such as sports in addition to founding a Masonic lodge.

Astra Română, in particular, and the oil industry in general also contributed to the development of the community of Ploiești through the taxes paid to the municipality. The city area included in the rail network was initially 1600 ha, expanded by another 6400 ha in 1921. The objective was fiscal: taxation by the municipality of the large refineries already in place, namely Astra Română, Vega, Concordia and Româno-Americană. In addition to this, a tax on oil products was also introduced. Starting from 1922, Ploiești council placed a tax on oil commodities produced by the

refineries within the city perimeter. These taxes increased and were eventually applied to the buildings of the different refineries and not just to the oil commodities they produced. The increases were a cause for concern for the companies that owned refineries in Ploiești (including Astra Română), which considered themselves at a disadvantage by comparison to other national companies whose refineries were situated outside of the city.

Ploiești ranked second in the country after the capital in terms of budgetary revenue. From 1906 to 1936, the proportion of direct and indirect taxes paid by the oil industry to the municipality grew from 4.5% to 66%. In 1936, no less than 530 874 842 RON or 5.2 million USD (1 USD equated 102.3 RON in 1936) in taxes was collected by the city of Ploiești. Astra was one of the city's largest refineries and country, so its financial input was proportionate. These sums of money contributed to the city's development and its modernization. The civic center acquired a Western aspect: the imposing headquarters of the Palace of Justice, the Central Market, the football stadium, and the sizeable high schools of the city were built during this period. The water, gas, and phone infrastructure was also expanded, and the majority of the streets were paved.

1940-1944: When the World Wanted to Plunge Ploiești into Darkness...

In 1940, when Romania joined the Axis, Ploiești became one of the nodal points of the German war machinery. The Third Reich dispatched specialists in the extraction and processing of oil products as well as numerous soldiers charged with guarding the industrial objectives. The anti-aircraft defense against the Soviet raids of 1941 to 1942 proved to the Allies that, over a relatively short time span, the region had become one of the best secured industrial areas controlled by the Third Reich. In 1943, at Casablanca, the British leader Winston Churchill noted that Ploiești was simultaneously 'the taproot of German mechanised power' and Germany's Achilles heel and that its destruction would shorten the war by some months. Over the following weeks, the frequency of bombardments increased gradually, with the 1st of August 1943 bombardment being probably the most dramatic. It was then that a large part of the Ploiești refineries were destroyed, together with Gara de Sud rail station, several administrative buildings and numerous pipelines. The Allies' mobilization showed that, for the Anglo-American leaders, the only way of letting light into Europe once again was to plunge into darkness the city which, half a century ago, had delivered illuminating oil Europe wide.



Astra Română was severely hit by the war. At the beginning of the hostilities, the management seemed more determined than ever to use the new context to its advantage. The investments in technology, completed by 1940, enabled the production of premium types of kerosene. Due to its central position on the national oil market, Astra was able to counteract the attempt of the Romanian state to nationalize the pipelines, stipulated in the 1940 decree on the expansion of the state

monopoly to the pipelines for the transport of oil products. Contested by the Astra representatives, the decree was repealed in 1942 as it was considered that such stipulations benefited neither the state nor to the major producers. Subsequently, in 1943, the law concerning the organization, production, processing, transport, and distribution of crude oil, gases, and their derivatives stipulated that while Romania was at war, any oil company that owned transport facilities was obliged by the ministry of economy to ensure the functioning and maintenance of the pipelines. During the same period, the refinery continued to consolidate its influence in the ports of Constanța, Giurgiu, and Oltenița in the hope of thus managing to maintain its market share of Romanian export. Yet as the intensity of the war increased, the efforts of Astra became more akin to a Quixotic fight. Crude oil production decreased yearly while the unfolding hostilities hindered oil exploration and research activities. In their absence, the refinery had to function with the already exploited fields whose resources were increasingly depleted. In this context, the crude oil reserves came to be significantly lower than the refining capacity of the facilities in Ploiești. Towards the end of the war, the functioning of the refinery was periodically stopped since the bombed facilities were only partially and imperfectly put back into operation. Export came to a temporary stop before being redirected exclusively to the USSR.

Epilogue

At the end of World War II, Astra Română was restored with great difficulty after the bombardments of 1944. It was nationalized in 1948 when it became part of Sovrompetrol until 1956, a most disadvantageous economic agreement through which the USSR exploited the oil resources of Romania. From 1956 until 1997, it was owned by the Romanian state. After the imposition of the communist regime, the refinery would never again experience the buoyancy of cutting-edge technological innovations; the cosmopolitan impact of the inter-war years remained only a vague recollection. In 1997, the company was privatized after it had accumulated huge debts. In 2004, it was closed down and declared dormant. Today, the refinery is a huge, closed museum that testifies to the lost greatness of the oil industry in the city.

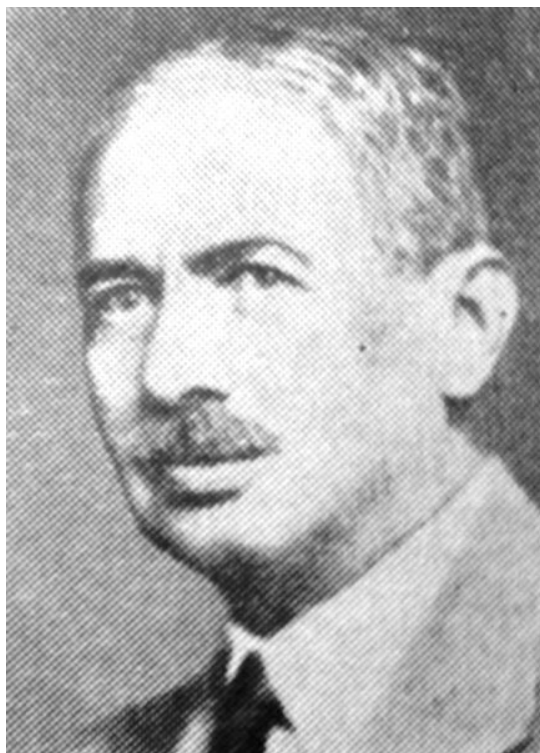
Annex 1: Max Schapira (1864-1921)



Max Schapira (1864-1921) was a representative figure for the modernization of Ploiești society. Born in Fălticeni in a family of Sephardi Jews, he moved to Ploiești towards the end of the XIXth century. He was granted Romanian citizenship in 1904. He bought the gas factory in 1901 and his business flair led him to rename it Astra Refinery. The purchase was followed by a series of investments in its modernization. Well connected to the international business environment, Schapira focused on key sectors: banking, oil, real estate, and textiles (as the owner of the textile factory Dorobanțul Schapira). His business excellence was acknowledged at the National Exhibition of 1906 when Astra-Schapira I. Max – Petroleum and Derivatives Refinery was awarded a silver medal. Schapira's work, *The history of the community of the Israelite cult in Ploiești*, was also awarded a diploma. Unwilling to make

further investments in technology, Schapira sold the refinery towards the end of 1906. This marked the transition from the romantic period of the industry to its international expansion. Yet Schapira did not completely leave the oil sector since he continued to lease the land he owned to the large refineries. He indirectly supported the development of the oil industry, particularly the companies with Romanian capital, through the loans given by his bank. He was a prominent member of PNL (the National Liberal Party) and a true Maecenas of the local community. He contributed to the development of education and culture; he launched philanthropic initiatives in support of the churches and Orthodox parishes of the town, and he supported young musicians and painters. On his decease, *Lumina*, the newspaper of PNL Prahova, noted that 'with the death of Max Schapira, we lose a strong pillar of the excellent, bold and well-conceived commercial and industrial enterprises of Prahova and the entire country. For a long time, one of the streets in the town retained his name.

Annex 2: Lazăr Edeleanu (1861-1941)



Lazăr Edeleanu (1861-1941), born in Bucharest in a Jewish family of humble origin, showed a studious inclination from his childhood. He completed grant-sponsored studies at the Faculty of Sciences of the University of Bucharest. He obtained his doctorate at the University of Berlin with a thesis titled ‘On the derivatives of fatty phenylmethacrylic and phenylisobutyric acids’ (original title in German: ‘Ueber einige Derivate der Phenylmethacrylsäure und der Phenylisobuttersäure’), which looked at amphetamine and its role. From Berlin he moved to England where he worked at the Royal Artillery College. He returned to Romania as a lecturer at the University of Bucharest, the organic chemistry department. His reputation as a specialist in applied chemistry in the emergent oil sector, as well as his connection to the German world, led to his appointment, between 1906 and 1910, as the

managing director of one of the large refineries of Ploiești, the Vega refinery, which had the German company Disconto Gesellschaft as majority shareholder. It was here, under challenging conditions and in the absence of a proper laboratory, that he developed in 1907 a groundbreaking method of refining oil that would be known as the Edeleanu method. It was subsequently tested in Rouen, France, and later applied widely in the oil industry. From 1910 onwards, Edeleanu continued his research in Germany at Allgemeine Gesellschaft für Chemische Industrie. With the help of the German company, he patented his invention, and the Edeleanu method started to be used in different production plants worldwide. After 1923, the Edeleanu method became very popular in the US following the author’s publication of a study in a US specialist journal, and numerous North American refineries started using it. The patent was valid until 1928, and after this date, the Edeleanu method was still widely employed in the countries where oil was extracted and refined. Edeleanu registered a series of other patents during his career: 40 in Romania and 17 abroad, mainly in Germany, the US, France, Sweden, and Holland. His activity provides the best illustration of the transformations brought by globalization and modernization in Ploiești were not unidirectional. Yet it also shows the limitations: the dissemination and implementation of his discovery on a global scale required communication with and scientific validation from a major European capital. In 1910, Edeleanu moved to Germany where he spent the greater part of his life, employed as the director of Allgemeine

Gesellschaft für Chemische Industrie. The final period of his life coincided with the rise of Nazism in Germany and with his return to Romania.

Annex 3: Otto Stern (1890? - 1946)



Otto Stern (1890? - 1946), managing director of Astra Română between 1928 and 1940, was one of the most influential specialists of the oil industry of inter-war Romania. Born, most probably in Hamburg, in a family of German Jews, he became an engineer. After working in Hamburg, he led Astra Română at the time of the economic crisis and during the years of maximum growth. A skillful diplomat, an expert, and above all, an internationally well-connected

businessman, he was pictured in many different roles in the Romanian press of the 30s: as a negotiator dedicated to the interests of his company and as a consultant for specialist associations and the national government, as a socialite present at all the critical events in Bucharest and Ploiești, as a mentor and sponsor of the company engineers' specialization courses abroad as well as of team prizes for sports events. In 1940, the increasing influence of Nazi Germany and the strongly anti-Semitic tendencies in Romanian politics forced him to leave Romania. Otto Stern, who was Jewish, had been warned by a German officer about the threat posed by the Nazis and he took the precaution of sending his family to Geneva from where they left for Italy, taking a boat to New York from Genoa. In New York, Otto Stern joined the executive board of Royal Dutch Shell, a company he was already well acquainted with since he had dealt with the management of other oil regions belonging to this global concern during his directorship of Astra Română. After 1944, Stern repeatedly returned to Romania to support Astra Română. He died unexpectedly in 1946 in an airplane accident on his return from the US to Romania. He was eulogised by the Romanian press, which stated that he 'played an important role in developing our oil industry and thus acquired praiseworthy qualities. His great capabilities enabled him to be of service to the state on several occasions, with various financial operations.'

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