

Modernisation, Electrification, Representation

The Electric “New Poland”, 1935–1939*

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“Immortal Spirit” in the electric aura

On the evening of 11 V 1936, the burial of Józef Piłsudski’s heart began in Vilnius. A coffin with the remains of Maria Piłsudska and an urn with the heart of the Marshal were brought to the Church of St. Theresa. At 8 pm., funeral military taps were performed. 45 minutes later, on ‘the eve of the date of Piłsudski’s death’, the snare drums of the honorary company sounded, 21 cannon shots were fired, and bells began ringing in Vilnius churches. At the same time, the illumination of major monuments was lit. Apart from the centre of the events, the Church of St. Therese, also: The Gate of Dawn, the Town Hall, the Cathedral, the Church of St. Anne, the Castle Mountain. A day later, after a solemn procession, the urn with the heart of Józef Piłsudski was laid in the Rasos Cemetery, at the Mausoleum of the Mother and the Heart of the Son designed by Wojciech Jastrzębowski¹.

The celebrations on 11–12 V have been arranged by the General Committee for Commemoration of Marshal Józef Piłsudski (hereinafter referred to as “the Committee”) as a mass event, gathering up to 50 thousand people. It was a huge logistical operation managed by the Military. The Committee was involved in organizing transport, grouping the masses of spectators, securing the area, planning a march of social organizations, legionaries, officials, scouts. Electric light was to play an important role in these events. Apart from the above-mentioned illumination of monuments, the Committee attached great importance to cross light beams of six anti-aircraft reflectors over the mausoleum, at the hour of Piłsudski’s death [fig. 1]².

* The article was prepared within the frames of the grant of the National Science Centre – Miniature 2 (Project no. 2018/02/X/45/01517). The term “New Poland” appears frequently in the literature of the *Sanacja* circles; it was popularized in the early 1930s by A. Skwarczyński (*Myśli o nowej Polsce*, Warsaw 1933).

¹ The Central Archive of Modern Records in Warsaw (hereinafter: AAN), the General Committee for Commemoration of the Memory of Marshal Józef Piłsudski, Executive Division (hereinafter: the General Committee...), *The funeral ceremony of the heart of Marshal Piłsudski in Vilnius. Orders and Instructions*, 1936, ref. 43, pp. 15–57. The Mausoleum’ implementation project: AAN, Supreme Committee..., the projects of the Tomb of the Mother and the Heart, ref. 21.

² AAN, The General Committee..., ref. 43, p. 58.



— fig. 1 The ceremony of the burial of J. Piłsudski's heart at the Rasos cemetery in Vilnius. Photo from: J. Radzimiński, *Budujemy Polskę*, Warszawa 1939, p. 22

“The Electric Baldachin” designed by the chairman of the Committee’s artistic section, Jan Sokołowski³, is an example of the use of electric light in a mass open-air political performance, an attempt to create a mystical atmosphere with the use of modern technology, an indication of the supernatural dimension of “Piłsudski’s heritage”⁴.

So-called “electric shows” in the interwar period were already an integral part of world exhibitions and even smaller ones⁵. In Poland, since the early 1930s, the anniversaries of the November Night in Warsaw have been accompanied by illuminations of Castle Square⁶. At the end of the 1930s, however, electricity was of particular importance to the Sanacja authorities. Lighting effects were used in mass ceremonies related to the idea of “totalizing of social life”, with the introduction of the so-called “state education” programme. “The man of the reborn Poland is to be a Polish man who is concerned about the greatness and power of his homeland, a lover of unity and harmony, of order and discipline” – we can read in the government brochure from the period⁷. In the second half of the 1930s, open-air performances directed with the use of the most modern lighting and sounding techniques became an important means of symbolic policy for the Sanacja regime, strengthening the cult of the Father from the mythology of the Independence and the Legions. Its patterns were drawn from totalitarian systems, although until the outbreak of the war the attempt to develop such an extensive propaganda apparatus in Poland as existed for example in fascist Italy was unsuccessful (due to smaller resources, lack of a single decision-making centre of power).

A turning-point in the popularisation of the electric illumination of state celebrations and events seems to be Józef Piłsudski’s funeral ceremonies in May 1935. “In tribute to the Creator of New Poland”, spotlights were used to expose a trailer with the Chief of State’s coffin against the background of the darkness; and Wawel was also illuminated. Subsequent anniversaries of the Chief’s death were held in accordance with the guidelines of the Committee’s Executive Department. Although the precise scenario was not developed until 1938, the lighting effects were used on a large scale from 1936. They were to be part of the setting for the ceremonies “proclaiming mourning but also arousing to great deeds”⁸. The culminating moment of the radio broadcast of the ceremony – 8:45 p.m. – was referred to as the “Moment of Silence”; it was preceded by snare drums and reading out excerpts from the Marshal’s writings. This solemn event was accompanied by a lighting setting (mainly to illuminate Piłsudski’s images)⁹. In the

³ A member of the artistic section was also L. Słędziński. At the end of the 1930s, J. Sokołowski, an artist associated with the Academy of Fine Arts in Cracow, designed several prestigious art decorations of propaganda character. In June 1936, together with F. Sz. Kowarski, he won a competition for the design of the Polish Cavalry Room at the Wawel Castle. See **I. Luba**, *Duch romantyzmu i modernizacja. Sztuka oficjalna Drugiej Rzeczypospolitej*, Warszawa 2012, p. 120. In January 1939, Sokołowski’s project (co-authored by J. Klukowski and Sz. Kowarski) won the competition to decorate the departure hall at Warsaw’s Central Station. See *ibidem*, p. 184.

⁴ The associations are unambiguous: Parteitag, “Cathedral of Light”. However, in the case of the above-mentioned Vilnius celebrations, we do not necessarily deal with the influence of the realization of E. von der Trappen, a lighting engineer (he created a similar luminous vault with A. Speer on 16 VIII 1936, on the occasion of closing the Olympics). The use of spotlights in mass political spectacles was not innovative at that time, i.e. in the second half of the 1930s (the beams of spotlights were crossed during great exhibitions in the 1920s). Electric lighting effects were already used in election campaigns in the United States at the end of the 19th century. See **E. Freeberg**, *The Age of Edison: Invention of Modern America*, New York 2013, pp. 129–130. The literature on Nazi light spectacles and the meaning of building illuminations is extensive. See e.g. **A. W. Thöne**, *Das Licht der Arier: Licht-, Feuer- und Dunkelsymbolik des Nationalsozialismus*, Munich 1979; **D. Baretzkob**, *Illusionen in Stein. Stimmungsarchitektur im deutschen Faschismus*, Reinbeck 1985; **W. Schivelbuschs**, *Licht, Schein und Wahn – Aufritte der elektrischen Beleuchtung im 20. Jahrhundert*, Berlin 1991.

⁵ **J.-C. Daufresne**, *Architectures de fêtes à Paris au XXème siècle: architectures éphémères de 1919 à 1989*, Sprimont 2001, pp. 15–45. The importance of the quality of the lighting of mass exhibitions was already emphasized at the end of the 1920s in art magazines and even in the cultural and social press, see for example: **S. Sawicki**, *Oświetlenie wystaw współczesnych*, “Rzeczy Piękne” 1929, no. 2, pp. 41–42; **S. Punicki**, *Symfonia światła i barwy wystaw współczesnych*, “Tęcza” 1929, no. 44, pp. unnumbered. Attention was paid to the quality of lighting at the Poznań General National Exhibition in 1929: *Powszechna Wystawa Krajowa w nocy*, „Wielkopolska Ilustracja” 1929, no. 52, p. 22. For more information see **S. P. Kubiak**, *Modernizm zapoznany. Architektura Poznania 1919–1939*, Warszawa 2014, p. 161.

⁶ See The Military Taps on Castle Square (29 XI 1939), National Digital Archive (hereinafter: NAC), ref. 1–P–3079–10.

⁷ *Polski ideał wychowawczy*, Warszawa 1933, pp. unnumbered.

⁸ *Uroczystości żałobne w Wilnie 11–12 maja 1936*, Vilnius 1936. Preliminary guidelines were prepared in March 1936: **M. T. Osiński**, Secretary of the Executive Department of the General Committee for Commemoration of Marshal Józef Piłsudski and Chairman of the Organisational Section to the Voivodeship Committees for Commemoration of Marshal Józef Piłsudski, Warsaw, 29 III 1936, AAN, General Committee..., ref. 54, p. 13.

⁹ **M. T. Osiński**, Secretary of the Executive Department of the General Committee for Commemoration of Marshal Józef Piłsudski and Chairman of the Organizing Section, Circular for 12 V 1939, Warsaw, 25 IV 1939: *ibidem*, pp. 26–27.



— fig. 2 New Central Unit at the EC1 power plant in Łódź, 1929–1930. Photo: F. Burno

second half of the 1930s, electric lighting, mainly spotlights, was used not only on successive anniversaries of Piłsudski's death (also on his name day, 19 III), but also on Independence Day, the Army Day and Sea Day¹⁰.

Energy for the Reborn

In the second half of the 1930s, electricity was primarily the driving force of the modernisation project. In the construction of Poland's superpower, its industrialization, the expansion of energy grids was regarded as crucial. This conviction was the link between the *Sanacja* camp, divided after Piłsudski's death. Advocates of accelerated modernization and symbolic use of this project could be found both among politicians from the so-called Castle Camp (e.g. Eugeniusz Kwiatkowski) and Edward Śmigły-Rydz's circle, e.g. Adam Koc, creator of the Ozon ideology and involved in electrification

of the Warsaw railway junction since the early 1930s. It was commonly believed that investments in the development of the energy sector were of key importance for industrialisation; the levelling of post-partition disparities or, finally, for Poland's civilisation leap leading to the position of a regional superpower¹¹.

Before World War I, the electric power system on Polish land was built mainly from private funds (owners of factories and mines) and by foreign companies. After regaining independence, thanks to the activities of the Association of Polish Electrical Engineers, the joint-stock company Siła i Światło (Strength and Light) or the National Electrification Commission established as early as in 1916, politicians understood the need to distribute throughout and "polonize electricity". The process of taking over power plants from foreign companies was accelerated after the May Coup, although it was later slowed down by the economic crisis. At the beginning of the 1930s, the implementation of the 1928 plan for electrification of the country was handled by The Electrical Department of the Ministry of Public Works, and since 1932 by the Electrification Bureau of the Ministry of Industry and Trade. In October 1933, the President issued a regulation to support electrification¹².

The power plants built during the Partitions were no longer sufficient for the expanding cities of the Second Polish Rzeczpospolita already in the mid-1920s. At the turn of the 1920s and 1930s the municipal authorities tried to take over plants from foreign companies¹³. Power plants established before the World War I were expanded: Łaziska in Silesia, the Łódź Power Plant and the capital city's Powiśle Power Plant [fig. 2]¹⁴.

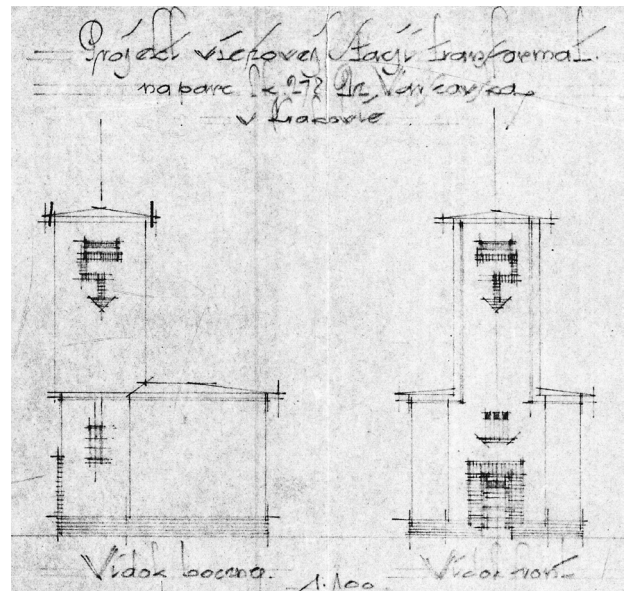


fig. 3 Cz. Boratyński, design of a transformer station in Cracow (currently the corner of 29 Listopada Avenue and Żytnia Street), scale 1 : 100, 11 VI 1928. Photo from: National Archive in Cracow, Archive of Urban Construction Plans, Varia 51, board 792 (fragment)

¹⁰ For example, the Belvedere illumination 10 XI 1937: NAC, ref. 1-P-2960-3.

¹¹ See, for example...: K. Rodowicz, The paper on the use of Galician river drops, 6 V 1919, AAN, National Committee of Poland in Paris, Records of the Office (Department) of Economics, ref. 1470.

¹² AAN, F. Doleżała's files, ref. 10 (files concerning the act on supporting electrification). The justification of the bill of 1932 stressed the need to develop "electrification, which plays a primary and dominant role in the economic life of the modern State". The weakness of "national capital" was also pointed out. It was concluded that tax exemption will be necessary for companies investing in electrical infrastructure: *ibidem*, pp. unnumbered.

¹³ The best example is the history of the power plant in Warsaw's Powiśle district. The French company Compagnie d'Electricité de Varsovie did not respect the district regulation projects prepared by the Magistrate. Its conflict with the city authorities continued from 1927 and was finally resolved in July 1936. The Municipal Board, on the basis of a court verdict, took over the power plant for compensation. See T. Klarnier, *Elektrownia Warszawska. Zarys historyczny sporu Gminy m.st. Warszawy z Towarzystwem Elektryczności w Warszawie*, Warszawa 1936.

¹⁴ M. J. Szymański, *Łódzka elektrownia i gazownia do 1939 roku*, Łódź 2016, pp. 197-208.

New power plants were built using loans from Bank Gospodarstwa Krajowego, e.g. in Bydgoszcz and Poznań (both from 1929)¹⁵. This was accompanied by the development and modernization of installations, combined with the creation of a transformer network throughout the city. By the way, it should be added that although the power plants were sometimes designed by renowned architects (e.g. Stefan Cybichowski was the author of the Poznań one), and sometimes interesting designs of transformer stations were created (e.g. the Cracow stations by Franciszek Maczyński, Czesław Boratyński and Juliusz Dumnicki), the architectural form of the new energy infrastructure was mainly given by engineers [fig. 3]¹⁶.

We have very few examples of the application of the thoughtful and attractive modernist style of “energy factories” in large power plants, a good example of which were the Berlin projects of Hans Heinrich Müller, but also those of the Romanian architect Maria Cotescu¹⁷. Poland’s creativeness in the modern industrial form for power grid buildings is rather mediocre in comparison to other European countries; the exceptions are, among others, some water dams¹⁸.

The aforementioned project of electrification and development of the national grid, striving for energy self-sufficiency, was combined with the development of the Polish electro technical industry important not only for the army, but also for the construction of a modern state. In the electrification plan, coordinated by the Polish Energy Committee, which had been operating since 1926, large funds were allocated to hydro technical facilities, such as the dam on the Dunajec River in Rożnów, built since 1934 according to a design by engineer Karol Pomianowski from the Warsaw University of Technology, and the dam on the Soła River in Porąbka having been built since 1933¹⁹.

The construction of new municipal power plants and dams was to be only a prelude to the creation of a nationwide power grid – a synchronously operating system with a standardized voltage and frequency of current. It was only when the economic crisis was overcome in the mid-1930s that an ambitious investment process could be launched. Attempts were made to speed up the three-phase power integration program at the local, district and ultimately national levels²⁰.

¹⁵ In Bydgoszcz the new power plant replaced the old buildings erected in 1896 (belonging to Allgemeine Lokal und StrassenBahn Gesellschaft Berlin). The site and buildings were purchased from a German company in April 1929. The power plant was built in 1928–1929 by the construction company of engineer F. Głowacki according to the design of engineer L. Régamey (the works were managed by engineer W. Markowicz, who supervised the construction of the power plant in Pruszków and Zgierz) and supplied new districts and housing estates (Sielanka, houses in Las Gdański and in Jary). The construction was financed by loans from the Bank Gospodarstwa Krajowego and the Polish–American Bank. The power plant produced alternating current, three–phase with 220V. An underground installation connected to transformers throughout the city was also built: **A. Wysocka**, *Architektura i urbanistyka Bydgoszczy w dwudziestoleciu międzywojennym*, Lublin 2015, pp. 166–167. A stone from the demolished Bismarck Tower was used to build the Bydgoszcz power plant: *ibidem*, p. 166. Garbary Municipal Power Plant in Poznań was built in the years 1925–1929 according to the design of S. Cybichowski (the design was based on the guidelines of the company Siła i Światło). The impressive building, one of the few Polish modern “Electricity Cathedrals”, was built on the site of the former Prussian fortifications of Fort Roon. See **S. P. Kubiak**, “Potężna świątynia pracy”. *Gmach poznańskiej elektrowni jako symbol nowoczesności*, [in:] *Elektrownia Garbary. Dokument potencjalny*, ed. **M. Kępski**, Poznań 2017; *idem*, *Modernizm zapoznany...*, pp. 155–156. The design is discussed in: *Budowa Elektrowni Miejskiej w Poznaniu*, “Architektura i Budownictwo” 1928, no. 5.

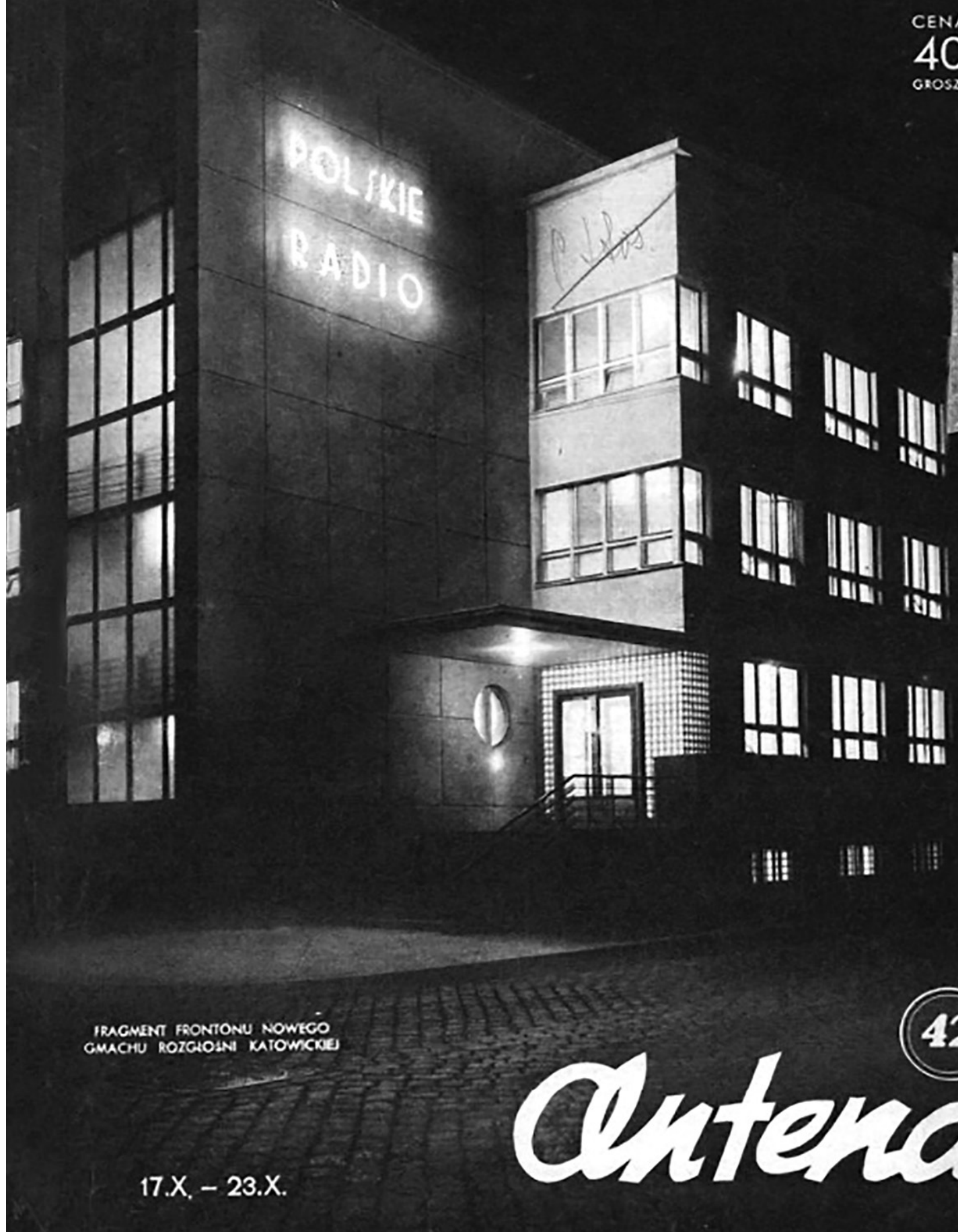
¹⁶ In the centre of Cracow, underground stations with cylindrical entrances designed by F. Mączyński were built: Nowy Kleparz (1934), Li-browszczyzna Street (1935), Długa Street at the Pędzichów intersection (1935). In 1937 a station was built on the square in Bujwida Street (designed by Juliusz Dumnicki) with a distinctive decoration of ceramic tiles. The stations on the outskirts of the city (Królowa Jadwiga Street, Malborska Street, Radzikowskiego Street) used richer forms with brick details, towers and electric iconography (lightning bolts made of bricks). The most elaborate form was given to the station at the corner of Żytnia Street and 29 Listopada Avenue (1928, designed by Cz. Boratyński). See **B. Zbroja**, *Architektura międzywojennego Krakowa 1918–1939. Budynek, ludzie, historie*, Kraków 2013, p. 206. The designs of Cracow’s transformer stations in: National Archive in Cracow, ABM Industrial Objects, ref. 262–267.

¹⁷ See **P. Kahlfeldt**, *Die Logik der Form: Berliner Backsteinbauten von Hans Heinrich Müller*, Berlin 2004, *passim*; **L. Machedon**, **E. Scoffham**, *Romanian Modernism. The Architecture of Bucharest, 1920–1940*, Cambridge, Massachusetts 1999, p. 286.

¹⁸ Even in prestigious realizations, e.g. related to investments of the Central Industrial Region (COP), the architectural form of the power plant was mediocre (with a few exceptions, e.g. the Power Plant of Ammunition Factory no. 3 in Dębnie with grey cement brick facades).

¹⁹ The construction of dams on the Soła River in Porąbka and on the Dunajec River in Rożnów was preceded by legislative actions and long-term (also due to the economic situation) design works. Hydro technical investments at the end of the 1930s, closely linked to the Central Industrial Region (COP), were to meet the State’s energy needs, but also transport and retention ones. This was combined with a river regulation programme for inland waterways. See **A. Jabłońska**, *Zapory wodne w Porąbce i Rożnowie*, [in:] *Modernizmy. Architektura nowoczesności w II Rzeczypospolitej*, vol. 1: *Kraków i województwo krakowskie*, ed. **A. Szczerski**, Kraków 2013, p. 238.

²⁰ See **M. Furtak**, *COP. Centralny Okręg Przemysłowy 1936–1939. Architektura i urbanistyka. Kraj, region, miasto, fabryka, osiedle, budynek*, Kraków–Łódź 2014, pp. 43–45.



FRAGMENT FRONTONU NOWEGO
GMACHU ROZGŁOŚNI KATOWICKIEJ

17.X. – 23.X.

42
Antena

fig. 4 T. Łobos, Polish Radio building at 29 Ligonja Street in Katowice, 1937–1938. Photo from: “Antena” 1937, no. 42, front cover

Lights of the metropolis

Electrification could help in building the prestige of the country, in strengthening the symbolic structure, it was important for the management of the state by means of efficiently operating and modern office buildings of administration and post offices [fig. 4].

It could be helpful in the project of tradition management (modern architectural apparatus of national narrative – such as the great museums in Warsaw, Cracow and Katowice). Electrification was important for the development of communication: development of radiotelegraphic network, provision of telecommunication services with telephone exchange system. It was also essential for the creation of electrified suburban railways modelled on the Berlin *S-Bahn* and fast trains with electric locomotives modelled on the Italian *Direttissima*. The creation of a network of fast direct intercity connections was linked to investments in mass tourism development by the Tourism Department of the Ministry of Communication²¹. Fast connections could in turn contribute to the programme of patriotic sightseeing tourism (including that related to the cult of Piłsudski) or visiting mass events such as the “Days of Cracow” Art Festival (concerts, performances and folk entertainment in the open air were accompanied by “atmospheric illumination” of monuments)²².

Electricity was to supply technical devices for the “efficient distribution of masses” in tourist centres, such as small electric motor trains in Krynica and Zakopane or an elevator in Jastrzębia Góra²³. Electrification was also to support the development of the largest cities, including the flagships of modernization, i.e. the capital city, Lviv, Katowice, or Poland’s gateway to the world, Gdynia, in which as early as in the late 1940s the Sea Basilica, illuminated at night, was to dominate, and at the end of the so-called South Pier the Monument to the Unification of Polish Lands with a 45-metre high obelisk and spotlights with a range of 20 km²⁴.

A good example of the connection between electrification and the creation of a metropolis is Warsaw of the late 1930s. On 10 VI 1938, the city authorities and the management of the power plant (which was taken over by the town hall in July 1936) called a press conference. During this conference, it was announced that “demand for electricity is increasing at a frantic rate”. In 1938, Warsaw’s electricity consumption increased by over 50% compared to the previous year. The plan was to “satisfy the increased consumption of electricity”²⁵. The problem was intended to be solved by building a new power plant at Żerań suburb²⁶. A temporary solution was the modernisation of the power plant in the Powiśle district²⁷.

²¹ This project was recently discussed by **M. Jarzabek** (*Luxtorpedą w nowoczesność*, “Autoportret” 2018, no. 3).

²² *Festiwal sztuki „Dni Krakowa”. Od 3–24 VI 1939 r.*, Kraków 1939, p. 8.

²³ The reinforced concrete structure in Jastrzębia Góra was designed by S. Hempel. The elevator, which was supposed to take holidaymakers to the beach, was not put into operation before the outbreak of World War II. See **O. Baron**, *Urbanistyka i architektura Jastrzębiej Góry*, [in:] *Polska nad Bałtykiem. Konstruowanie identyfikacji kulturowej państwa nad morzem 1918–1939*, ed. **D. Konstantynów**, Gdańsk 2012, p. 337. The development of fast electric railway connections was of great importance for economically backward Podkarpacie (tourism, winter sports and health resorts). In 1935 the Cracow Chamber of Industry and Commerce created the Committee for Electrification of the Cracow Land Railways (since 1938 – the Society of Mountain Electric Railways in Cracow). See **Z. Beiersdorf, J. Purchla**, *Dom pod Globusem. Dawna siedziba krakowskiej Izby Handlowej i Przemysłowej*, Kraków 1997, pp. 84–85.

²⁴ It was planned to build by the autumn of 1939 at the end of the so-called South Pier a 45-metre high granite obelisk with an iconographic programme referring to the times of the Polish state’s greatness (inscriptions recalling the figures of Bolesław I the Brave, Władysław II Jagiełło, Stefan Batory and Józef Piłsudski). The monument, surrounded by a square for 16 000 people, was to be illuminated by spotlights with a range of 20 km. See **I. Luba**, *op. cit.*, p. 195. Already in the conditions of the 1930 competition it was written that this monument was to be “designed primarily to impress from the sea”. The monument was to combine the functions of a dominant feature in the composition of the main urban axis of the city and the lighthouse. The monument was planned from the beginning as a “monument of the future”, “a sign of the vigour and splendour of the Polish Nation” (*Program i warunki konkursu na projekt pomnika Zjednoczenia Ziemi Polski w Gdyni*, “Architekt” 1930, no. 8, p. 41 ff.).

²⁵ *Rozwój elektrowni*, “Głos Miast” 1938, no. 10, p. 14.

²⁶ In the middle of 1938, leveling works started in Żerań and a special channel was constructed. See “Głos Miast” 1938, no. 16, p. 9.

²⁷ In 1938, an 80-metre chimney was demolished, special systems to reduce the emission of smoke in existing chimneys were installed, new turbines were added. Attempts were also made to incorporate the power plant complex into the building line at the Vistula boulevard. There were plans of rebuilding, according to the design of J. Tokarzewski, the 5–15 km² switchyard from the side of the Coast and Heating Boiler Station no. III from the side of Leszczyńska Street. See *ibidem*. See also **J. Koźmiński**, *Elektrownia warszawska. Zarys czterolecia 1935–1938*, “Kronika Warszawy” 1938, no. 4.



fig. 5 Cz. Jabłoński, J. Korszyński, design of the Administrative Building of the Municipal Power Plant in Warsaw, perspective view, 1937. Photo from: "Przegląd Elektrotechniczny" 1937, no. 21, p. 1024

An important investment of the municipal power plant was the erection of a modern administration building at the corner of Wybrzeże Kościuszkowskie Street and Tamka Street. The monumental building designed by Czesław Jabłoński and engineer Józef Korszyński was to house all the offices previously located in several points of the city [fig. 5]²⁸.

The corner of the impressive office building, built in reinforced concrete construction, with its own telephone exchange and a gas shelter in the underground, is also an excellent example of a reference to the German *Lichtarchitektur*²⁹. By illuminating its corner vertical communication section after the night-fall, a column of light was created as a symbol of "electrification of Warsaw".

After 1936, the Magistrate began a project called "electricity management", an acceleration of "the rate of development of electricity consumption", which was intended to be brought closer to the level of Western European countries. The city popularized electricity. To speed up the electrification process, more favorable prices for individual consumers were introduced. The power plant organized "Showrooms" in which domestic electrical appliances were promoted³⁰.

For the Magistrate, accelerated electrification was a precondition for transforming Warsaw into a metropolis³¹. Electricity was to breathe life into the Monumental Warsaw: the Electric Access Railway, the

²⁸ W. Szwander, *Uroczystość poświęcenia fundamentów nowego gmachu administracyjnego oraz uruchomienia nowego turbozespołu w elektrowni miejskiej w Warszawie*, "Przegląd Elektrotechniczny" 1937, no. 21, p. 1024.

²⁹ The term "illuminated architecture" (*Lichtarchitektur*), introduced to the architectural debate already before the World War I by B. Taut and P. Scheerbart, was popularized in the 1920s by J. Teichmüller. See D. Neumann, *Lichtarchitektur and the Avant-Garde*, [in:] *Architecture of the Night: The Illuminated Building*, ed. *idem*, Munich 2002, p. 36.

³⁰ For example, the famous Warsaw Power Plant Showroom in the Herse's House in Kredytowa Street, designed by J. and J. Ostrowski and Z. Stępiński in 1937. In the Showroom, trainings on cooking on electric cookers were organized. Description of the Showroom in: *Jadwiga i Janusz Ostrowscy, Zygmunt Stępiński, arch. arch. - Salon Demonstracyjny Elektrowni Warszawskiej*, "Architektura i Budownictwo" 1937, no. 11-12.

³¹ Electricity was also important in presenting the modernization project. On 28 III 1936, during the opening of the exhibition "Warsaw of the Future", S. Starzyński presented a model of the capital's development to the gathered officials. Thanks to the system of switches, it was possible to change the lighting of an impressive board; blue light marked the rivers and canals, yellow one marked the exit arteries, and red one marked the metro network; the drawing boards on the walls showed the city's connection with the region. See G. Piątek, *Sanator. Kariera Stefana Starzyńskiego*, Warszawa 2016, pp. 234-235.

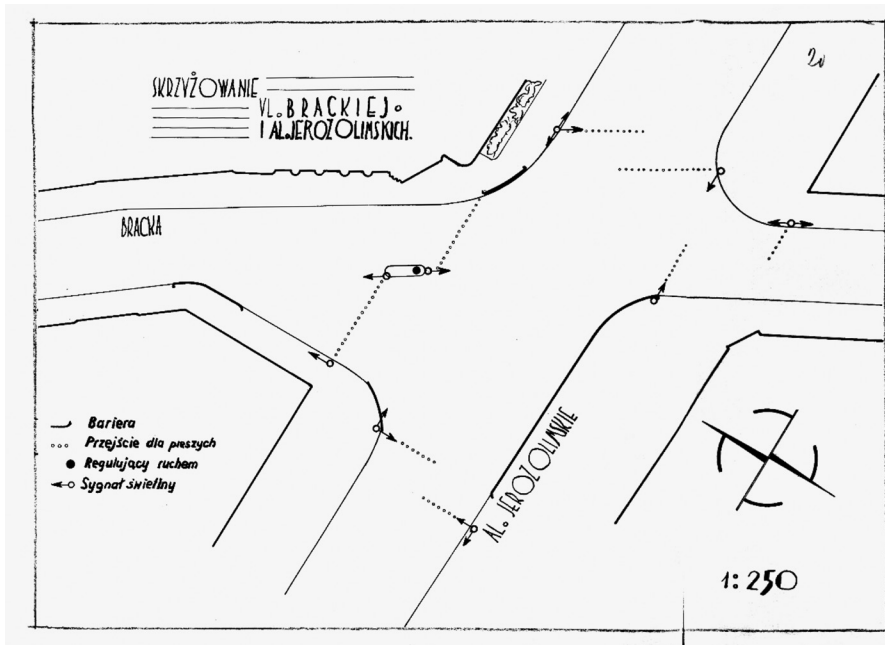


fig. 6 Traffic light scheme at the corner of Bracka Street and Jerusalem Avenue in Warsaw, 1938, scale 1 : 250. Photo from: State Archive in Łódź, City of Łódź Records, Łódź City Council, Technical Department, ref. 22977, p. 20

Central Station with escalators, a subway, illuminated boulevards on the Vistula River, traffic lights, illumination of state buildings, high-speed elevators in skyscrapers, neon signs and modern shop windows [fig. 6–7]³².

All this was supposed to make up a big-city electric spectacle of the 2.5 millionth metropolis that the capital was to become in the 1950s³³.

“In American style”

In the new states after Versailles, electricity was often a sign of modernisation, but also of a young energetic statehood (e.g. in Yugoslavia, Lithuania, and above all in Czechoslovakia)³⁴. It was similar in Poland, a country economically lagging behind, one of the poorest in Europe. Between 1935 and 1939, the mod-

³² The Central Railway Station has been built since 1933 according to the 1931 design by Cz. Przybylski. The ceiling made of varnished eternit in the arrivals hall was to be illuminated. The whole edifice was supposed to cause that Warsaw will “right on arrival make an impression of a great metropolis of Europe” (J. Kubalski, *Przyszły dworzec główny*, “Kurier Warszawski” 1932, no. of 17 III, p. 6, as quot. in: J. Trybuś, *Warszawa niezaistniała. Niezrealizowane projekty urbanistyczne i architektoniczne dwudziestolecia międzywojennego*, Warszawa 2012, p. 116. Communication solutions of the station are discussed in: Z. Gorazdowski, *Charakterystyka budowy Dworca Głównego w Warszawie*, “Przegląd Budowlany” 1939, no. 7. Reports of the Ministry of Treasury on electrification of the Warsaw Railway Junction: AAN, Ministry of Treasury, no. 4082, *Electrification of the Warsaw Junction* (1938).

³³ Warsaw’s Prudential was described by the architect himself, M. Weinfeld, as a “light-giving tower”. In this heavenly building there was seen the announcement of the center with skyscrapers, the leaven of “Americanization of Warsaw” (E. Tonia, *Budynek warszawskiego Prudentialu jako afektywna heterotopia – rekonesans*, “Miejsce” 2017, no. 3, p. 50). The development of neon signs in Warsaw since the late 1920s, e.g. cinemas (Palladium at Złota Street 7, Atlantic at Chmielna Street 33), night clubs with dancing (e.g. Oaza at Wierzbowa Street 9, Belle-Vue at Marszałkowska Street 107, Colombina” at Jasna Street 3, Mars at Nowy Świat Street 26), as well as the illuminated shop windows which were created under the supervision of the Artistic Inspectorate (e.g. Philips shop at Marszałkowska 139 designed by J. Rotmil in 1926 or the famous Plutos shop at Marszałkowska Street 119 designed by T. Gronowski around 1938) are discussed in: J. Zieliński, I. Tarwacka, *Neony. Ulotny ornament warszawskiej nocy*, Warszawa 2010, pp. 13–47.

³⁴ The symbol of the new and energetic, young Czechoslovakian state was the so-called Edisonka (Z. Pešánek, 1929–1930), a kinetic lighting sculpture–advertisement placed at the Prague transformer station on Jeruzalémská Street 2 (F. A. Libra, 1926–30). The installation made of iron and glass, operating between 1930 and 1936, depicted the globe surrounded by electric wires, plane wings and a form of a transformer. See J. Zemánek, *Světelné město, počátky spolupráce Zdeňka Pešánka s Elektrickými podniky hlavního města Prahy*, [in:] *Zdeněk Pešánek 1896–1965* [cat. of the exhibition], 21 XI 1996 – 16 II 1997, National Gallery in Prague, ed. *idem*, Praha 1998; *idem*, *Pešánkův Spektrofon*, [in:] *Zdeněk Pešánek...*



fig. 7 S. Siennicki, shop window of "J. Franaszek S.A." in Jerusalem Avenue 33 in Warsaw, 1931. Photo from: "Przegląd Budowlany" 1931, no. 6/7, pp. unnumbered

ernizing message was consolidated; the image was integrated. The tension between neo-Romantic symbolism and modernity disappeared then; they were no longer contradictory. Inspiration was drawn from Italian fascism about own path of modernization, with tactical use of the past, with the subordination of private capital to the state policy, with the whole language of praise of the vigour, of the national strength and the aspirations for the superpower.

Electrification had an elaborated iconography in the 1930s. Enough to mention the Soviet examples. In Poland, however, there was no symbolic identification of the leader with an electric impulse. The Commander-in-Chief or President was not presented as Givers of Light³⁵. The visual representation of the modernization project in Poland, created by the so-called state-forming artists and photographers, was often based in the late 1930s on stylizations taken from the aesthetics of the American New Deal. An extensive propaganda programme accompanied the establishment of the Central Industrial Region (COP), a large-scale regional investment and economic plan covering the central voivodeships. The COP project included new power plants (e.g. in Mościce), as well as the already mentioned dams on the Soła River in Porąbka and on the Dunajec River in Rożnów [fig. 8].

³⁵ See, for example, J. Stalin's depictions from 1937–1940, a period of great hydro technical projects.

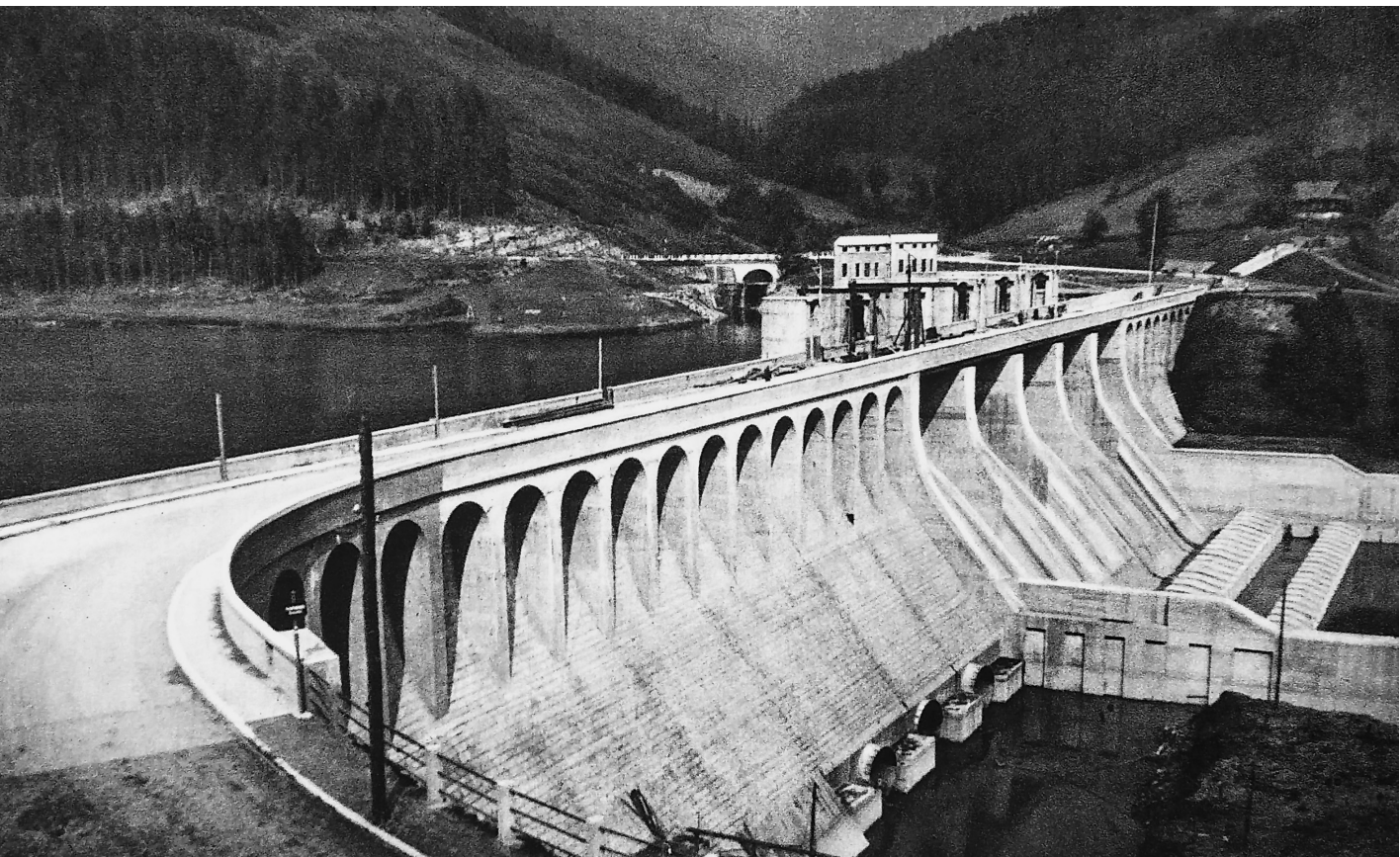


fig. 8 Porąbka Dam, 1934–1937. Photo from: J. Radziwiński, *Budujemy Polskę*, Warszawa 1939, p. 162

Various articles and photographic reports attempted to present the modernity of the construction site and the pace of implementation. Dams erected on a grand scale, as the press wrote, “in American style”³⁶. The impressive structures, built by teams of engineers and the *Junackie Hufce Pracy* (Brave Youth Job Corps, JHP), became symbols of the country’s electrification. The construction of dams was also to be an impulse for the development of the region, e.g. the Porąbka Dam was to initiate the creation of a modern tourist region:

A completely different life will arise by the Międzybrodzkie Lake. Hotels, villas, guest houses will grow up on the slopes of the mountains, rowing associations will build harbours, white silhouettes of sailing boats and fast canoes will cut the silent blue of the waters. On a great road the cars will speed. The people will run here from the musty air of cities - to joy and sunshine. Because the world will be here as beautiful as a fairy tale³⁷.

³⁶ K. Żakowski, *Wrażenia z wycieczki do Centralnego Okręgu Przemysłowego. Odkrywamy nową Polskę*, “Kurier Poranny” 1937, no. 297, p. 5. The correspondent of the Cracow “*Ilustrowany Kurier Codzienny*” described a solemn ceremony of consecration on Sunday 13 XII 1936 by the Cracow bishop A. Sapieha. The journalist admired the monumental building, erected “at an American pace” for 18 million zlotys; the author recalls excerpts from a speech by the Deputy Minister of Communication, J. Piasecki, according to which the dam will testify to “the vigour of Polish technical forces in fighting the force of the element” (*Wspaniałe dzieło polskiej techniki. Zapora wodna w Porąbce otwarta*, “*Ilustrowany Kurier Codzienny*” 1936, no. of 15 XII), p. 1. Two days later, in “*Kurier*”, the journalist was excited about the technical details given by the engineers at the press conference: “A 6-metre wide roadway was set up on the crown of the dam. The cubature of the entire dam, i.e. the amount of used concrete is 10,000 cubic metres. This concrete was brought to the construction site by means of a special cable car”. The author of the article also gave technical details of the reinforced foundations of the building, sandstone and crystalline shale rocks, where “cement milk” was poured in by means of 1800 drillings (*Zapora wodna w Porąbce otwarta*, “*Ilustrowany Kurier Codzienny*” 1936, no. of 17 XII, p. 5).

³⁷ M. Czerska-Maczyńska, *760 mórg polskich pod wodą*, “*Przewodnik Katolicki*” 1935, no. 51, p. 816; as quot. after: A. Syska, *Porąbka – świat jak z bajki*, <http://rik.katowice.pl/blog/porabka-swiat-jak-z-bajki> (access date: 6 VII 2019).

The state hydroelectric projects were accompanied by specific depictions of events, especially by aesthetisation of work, machines, reinforced concrete structures. The photo-reportages exposed the victory of technology over the nature and the creation of a new industrial landscape. All this, based on the same patterns of the New Deal iconography, straight photography, but also Soviet photography, appeared then almost all over Europe, especially in Italy, for example the photographs of the Istituto Luce from the construction of the Ponte Gardena hydroelectric power plant near Bolzano in 1938. This method of visualizing hydro technical projects is also present in Turkey at the end of the 1930s, e.g. the Çubuk Dam near Ankara³⁸.

“Electric State” – an interrupted project

Reports published in professional periodicals from the end of the 1930s, e.g. “Przegląd Elektrotechniczny” (Electrotechnical Review), showed that, according to analyses of the ministries responsible for electrification from that period, Poland was to overcome its civilization gap within two decades, mainly due to electricity. Dreams about world exhibitions, motorways and metropolises illuminated by neon lights were to come true even faster³⁹.

In the years 1935–1939, the country’s electrical infrastructure was successfully expanded. Shortly before the war, a power plant was opened in Stalowa Wola⁴⁰. Works on the dam in Myczkowce were nearly finished, the construction of the Stróża Dam on the Raba River was launched. In Vilnius it was decided to build a large hydroelectric power plant, the first of several planned in the region⁴¹. Electrification, under the *étatist* model, was supported by Polish capital, mainly joint stock companies with state shareholding⁴². Transmission line equipment was produced by Polish plants (although often under Western licenses).

There was no enough time to integrate the power supply at national level. Only the seeds of this project were laid. Electrification investments for the Central Industrial Region were carried out by ZEORK

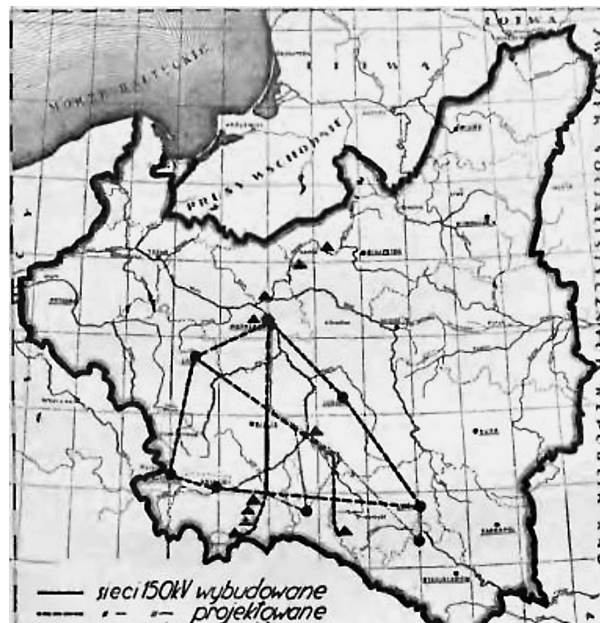


fig. 9 Existing and planned electrical grid in 1937. Photo from: “Przegląd Elektrotechniczny” 1937, no. 24, p. 1079

³⁸ See S. Bozdoğan *Modernism and Nation Building. Turkish Architectural Culture in the Early Republic*, London 2001, pp. 120–123.

³⁹ See AAN, Ministry of Communication, Five-year water investment programme for the years 1936–1940 with explanations, ref. 2655.

⁴⁰ One of the most important industrial centres of the COP was to be the metallurgical–mechanical plants, for which a place was designated on the left bank of the San river, near the village of Pławo, 6 km south of Rozwadów. In a poor, under-industrialized region with high unemployment, the intention was to build a fine steel smelting plant for the arms industry and an artillery equipment factory. Slightly more than 1,000 hectares of land for this project were divided into three cadastral divisions. The first one, with an area of 741 ha, was designated for an industrial zone. The second one, with an area of 315 ha, was for a factory workers’ housing estate. Whereas on the third and smallest parcel of land (36 ha) it was planned to build a power plant (which was erected before the war broke out). See F. Burno, *Stalowa Wola – diagram władzy*, “Autoportret” 2013, no. 1, p. 64 ff.

⁴¹ See AAN, Ministry of Communication, Hydroelectric power plant in Turmuszki on the Viliya River, ref. 2619.

⁴² It also had an impact on the dynamic development of the visual propaganda of modernization of the country in the second half of the 1930s. It was possible thanks to the high advertising expenditure not so much of private companies, but first of all of state holdings, created after the purchase of bankrupt companies. The large state-owned companies commissioned the graphic design to renowned artists such as Tadeusz Gronowski and Stefan Osiecki. In numerous folders, brochures and catalogues from the late 1930s, there was a modern visual language, based, among others, on the synthesis of forms, the use of photomontage technique, serving to show progress, depict the modernization of the country, including the promotion of electrical equipment, e.g. the poster of the Electromechanical Exhibition in Katowice (June 1939) by W. Z. Langner. See P. Rypson, *Nie Gęsi. Polskie projektowanie graficzne 1919–1949*, Warszawa–Kraków 2017.

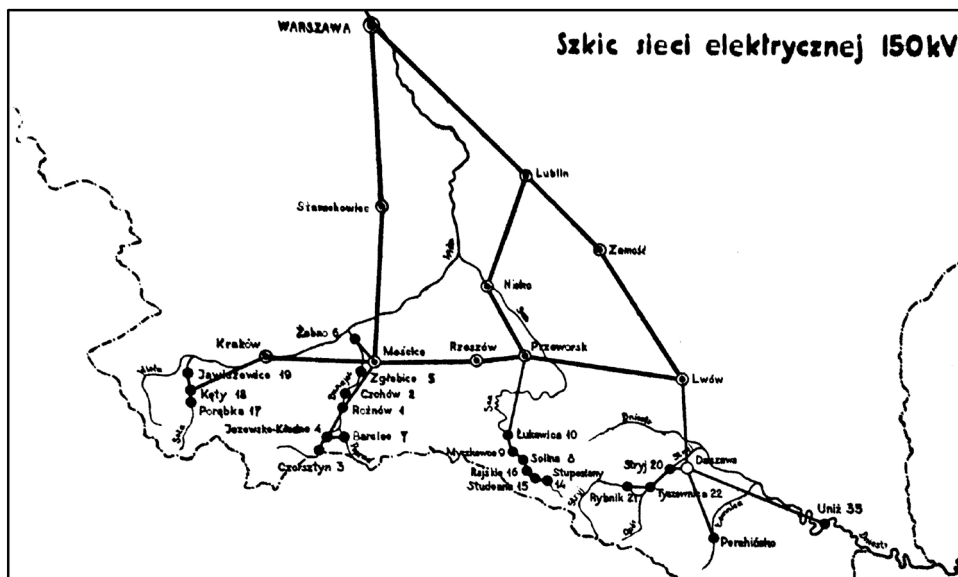


fig. 10 Diagram of the 150 kV electrical grid. Photo from: "Sprawozdania i Prace Polskiego Komitetu Energetycznego" 1938, no. 1, p. 13

(Association of Power Plants of the Radomsko-Kielecki Region). The expansion of the medium voltage electrical grid can be considered as its success. Fragments of 150 kV line from the hydroelectric power plant in Różnowo to Warsaw with a branch to Stalowa Wola and Ostrowiec Świętokrzyski were realized [fig. 9–10]⁴³.

As Melchior Wańkowicz wrote in *Sztafeta* – in Rożnów four turbo generators with a total capacity of 45 kWh will in the future give Poland “stream of electric kilowatts”⁴⁴. Meanwhile, just before the war in the cities there were still many tenement houses without electrical installation. Primarily the electrification of villages and towns was neglected, especially in the Eastern Borderlands (Kresy Wschodnie)⁴⁵. Particularly striking on a national scale were the delays in the process of electrification of villages, e.g. in comparison with Ireland, where the project to supply electricity to rural households has been consistently implemented since the mid-1930s⁴⁶. In 1938, only 3% of villages in Poland were electrified. And the percentage of electrified rural households was only 2%⁴⁷. The dream of the Electric New Poland was ended by the outbreak of the war.

⁴³ See AAN, Ministry of Treasury, ref. 4081, Electrification of Central Region 1938; AAN, F. Doleżał’s Files, Electrification of Poland, ref. 11, Reports and Balance Sheets of the Association of Power Plants of Radomsko–Kielecki Region ZEORK 1930–1938. The project of the Starachowice–Warsaw line was developed on the initiative of the Ministry of Industry and Trade between July 1934 and April of the following year. This section alone cost over 9 million zlotys (it also included a transformer station to power the Warsaw railway junction). See AAN, F. Doleżał’s Files, Electrification of Poland. High Voltage Lines: Starachowice–Warsaw, Starachowice–Nisko. Projects. Cost estimates. Agreement, 1937–1939, ref. 12. In the Lublin region (area “B” of the COP) an attempt to create a district grid was made by the Lublin Intercommunal Electrification Association (“Lubzel”). See M. Furtak, *op. cit.*, p. 45. Since 1937, as part of the United Factory of Nitrogen Compounds in Mościce and Chorzów, a joint stock company called Regional Electricity Plant in Tarnów (OZET) operated. It carried out commissions of the Ministry of Industry and Trade, among others, the 30 kV high voltage grid Mościce–Dębica–Rzeszów (supplying mainly industrial plants). See *ibidem*.

⁴⁴ M. Wańkowicz, *Sztafeta. Książka o polskim pochodzie gospodarczym*, Warszawa, 1939, pp. unnumbered. The fascination of Wańkowicz with the switchgear of the power plant in Mościce, which he described as the “brain of electricity”, is characteristic for the period. Wańkowicz wrote about this modern management centre, through which energy from Rożnów was to pass in the future, in the following way: “the room is surrounded by various types of signal generators. In the case of the slightest imperfection an alarm siren roars automatically and a blue light comes on. The bands of graphic charts silently roll under glass hubcaps and signal the processes that take place in that vast electric state. We are overwhelmed by admiration for human genius when we realize that we are in the centre of the dispatching of a monstrous force that will move tens of thousands of workshops over many hundreds of kilometres and in Warsaw itself, it will warm up and shine” (*ibidem*).

⁴⁵ Although it must be admitted that in the Borderlands there were attempts to create regional grids, e.g. Association of Volhynian Power Plants. See AAN, Ministry of Communication, ref. 2579.

⁴⁶ See G. Doherty, *Power: Are You Getting the Light? Ardnacrusha, the Rural Electrification Scheme and Illuminating Ireland’s Peripheries*, [in:] *Infrastructure and the Architectures of Modernity in Ireland 1916–2016*, ed. G. A. Boyd, J. McLaughlin, London 2015.

⁴⁷ J. Pilatowicz, *Rozwój elektryfikacji w Polsce międzywojennej*, [in:] *Roczniki Dziejów Społecznych i Gospodarczych*, Vol. 41 (1980), Poznańskie Towarzystwo Przyjaciół Nauk Poznań 1980, p. 36.

Słowa kluczowe

II Rzeczypospolita, modernizacja, elektryfikacja, kultura wizualna II RP, architektura i technologia

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Summary**FILIP BURNO (Academy of Fine Arts in Warsaw) / Modernisation, Electrification, Representation. The Electric “New Poland”, 1935–1939**

The article is the first presentation of the poorly recognized problem of the relationship between modernization and electrification in the Second Rzeczypospolita. The study focuses on a relatively narrow time span, covering several pre-war years. The subject of the author’s interest is not only the architecture of electrical infrastructure, but also the use of electric light in mass political performances. The first part of the article discusses the use of light effects in state celebrations, mainly related to the cult of Józef Piłsudski. Then the process of modernization of the power grid was presented, including the construction of transformer stations and power plants. The topic of the next part is the importance of electricity in modern management of the metropolis. The article also discusses strategies of depicting large hydro technical investments. The title issue was shown against the background of phenomena occurring in the architecture and Western culture of that time. The study was based, among others, on archival materials and professional magazines from the period.