

INDUSTRIAL HERITAGE OF THE 1920S AND 1930S IN RIGA



Anita Anteniške, Jānis Krastiņš

Riga Technical University, Latvia

Abstract. Riga is best known for its industrial growth at the turn of the 19th and 20th century and in the 2nd part of the 20th century. The interwar period of industrialization (1920–1940) is famous with a number of impressive industrial products while the impact of production activities on architectural and urban development is almost neglected. This paper addresses the industrialization of Riga during the interwar period between the WWI and WWII, examining the actual industrial development and the architectural testimonies still to be found in urban environment of the city, while addressing the perception of architectural heritage in the context of general and art history of Latvia. The methodology of the paper includes survey and analysis of historical sources, fieldwork carried out during a couple of decades, and a comparative analysis of the remaining industrial buildings of the period. Due to the evacuation of machinery and workforce from the factories of Riga at the beginning of the WWI, the vast production halls built recently were empty while the afterwar technological development and consumer demands triggered early reuse of a number of existing factories for new functions including production, storage, industry, repairs etc. The new industries such as transportation and communications, or the blossoming ones like food production, ensured and supported influx of a new, contemporary architecture into the urban space of Riga. The Modern Movement was one of the trends, Art Deco was another, while more modest and rational halls were built for transportation needs. The architectural remains of industrial heritage from this period are in variable condition. Some of the structures were altered during the following decades; some were abandoned since the 1990s due to disappearance of the entire enterprises they were part of. Recognition of the values of the Modern Movement architecture in general and of its features in industrial heritage in particular have helped in preservation and revitalisation of several cases already. As those enterprises were instrumental in the creation of the economic and social efficiency of Latvia during the interwar period, currently might be the right time to reconsider and strengthen their heritage value and protection options in the urban landscape of Riga. **Keywords:** industrial heritage, architectural heritage, Modern Movement, architectural history, urban environment

Introduction

Riga emerged as a rapidly growing, contemporary industrial metropolis at the turn of the 19th and 20th century. The urban environment that took shape during that period was one of the key reasons why UNESCO inscribed the historical centre of Riga on its World Heritage List. During the 1920s and 1930s, Riga was the capital of the independent Republic of Latvia, building its economic prosperity upon agricultural success and regeneration of its industrial nerve. Technological development, human know-how and existing industrial buildings made the backbone to build on the industrial growth of the interwar years. During the Soviet occupation of Latvia, a new industrial expansion overshadowed the memories on the achievements of the interwar period. As a result, the scope and value of industrial heritage from this period is not accurately defined, especially in comparison to other historical periods. Therefore, it is crucial to analyse actual architectural testimonies from the interwar period, their current conditions, and protection possibilities of those buildings and sites.

Historically, survey of industrial heritage is a new discipline in Latvia; during the 1920s and 1930s heritage specialists were mostly focused on ancient monuments and artefacts, and not listing industrial buildings at all; a single windmill was protected by moving it to the Open-Air Museum of Riga, one more was listed only after the 2nd World War, and the first cases of the 19th century heritage listings occurred only in 1984 [2]. However, during the interwar period, there were surveys and analyses carried out on current industrial developments in the city [6; 26] and planning proposals developed based on projections about the future industrial development of the city [21]. During the final two decades of the 20th century, research touching upon industrial and architectural heritage from this period was mostly focused either on the economic, social and political development of the city [29] or on architectural history, surveying and defining architectural trends and landmarks among public and residential buildings

[19; 20]. Foreign historians saw Riga either as part of the Russian Empire, of Central Europe, or of the Soviet Union if mentioning at all; statistical data from the three Baltic States during the interwar period often were mixed all together [27]. Nowadays, industrial heritage is well researched and promoted internationally [3], its adaptive reuse has become a fashionable trend [10], while the positive gain from contemporary regeneration approaches of previously neglected and depressive ancient ruins has been recognized also in Latvia [28]. At the beginning of the 21st century, research on industrial heritage developed considerably in Latvia, leading to the publication of a guidebook on the most prominent heritage from all the periods of industrialization [4]. Several technological surveys on specific sections of industry [13; 14; 15] and monographies on particular branches of industries [5; 8; 22] were published covering the interwar period as well. The scope and importance of the industrial heritage of Riga was recognized by several researchers, both locally [30] and internationally [25]. A thorough economic history on the industrial development of Latvia was also published [17]. History of art and architecture has mentioned industrial heritage recently [12] while paying a special attention to the new, locally produced construction materials introduced in building industry during the interwar period, too [23]. General surveys on industrial heritage of Riga have been touching upon the specific features and challenges for interwar industrial architecture just briefly [1]. Nowadays, there are many on-line sources available mentioning the industrial past of Riga and Latvia ensuring continuous rise of interest on heritage. While some of them should be cross-checked to verify the information provided, there are reliable sources based upon historical archives, too: The Digital Library of the Latvian National Library and the digital version of the National Encyclopaedia of Latvia; data from those sources along with data from Latvian State Historical Archive's funds of Project Archive of Riga Building Department are used in the

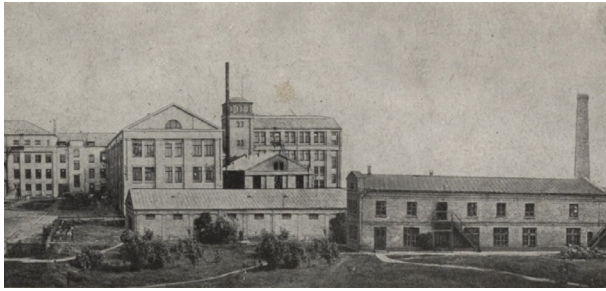


Fig. 1. Rubber factory "Kvadrāts" at Latgales iela 322/324. Architect Wilhelm Ludwig Nikolai Bockslaff. 1925. The period photo [16]



Fig. 2. Contemporary view of rubber factory "Kvadrāts" at Latgales iela 322/324 with additions from the 1970s and on-going process of functional and architectural conversion

article if no caption is provided.

The research discussed above does not provide a thorough survey of architectural legacy of industrial heritage from a particular period, especially of the 1920s and 1930s. There is also no analysis from either functional or stylistic point of view carried out of that heritage. The subject of this paper is industrial heritage from the 1920s and 1930s, and its aim is to examine this heritage, define its dominant features and artistic quality, as well as main challenges and recommendations for its maintenance and protection in the future. Comparative analysis of historical and contemporary sources on general and on socio-economic history as well as on history of Modern Movement architecture and heritage protection supported by fieldwork and photographic surveys by the authors carried out during more than 20 years was used as basis of research methodology. All photos used in the article are taken by Anita Anteniške if not stated otherwise.

Functional typology of the interwar period

industrial heritage in Riga

Industrialization began around the 1770s in Great Britain with the introduction of steam power and development of the factory system; it fostered new social and economic relations, but also called for construction of new types of buildings to satisfy the demands of the production process, energy supply, transportation and other industry-related activities. The first industrial revolution was followed by the second one, marked by the development of internal combustion engine, electricity, and mass production, while the beginning of the third was marked by peaceful application of nuclear power and information technologies [9]. Considering this generally accepted technological and economic periodisation in the context of political circumstances in Latvia, three main periods of industrial development regarding Riga can be discerned: the first from the middle of the 19th century to the beginning

of World War I, the second was the interwar years, and the third after World War II.

After the intense first period of industrialization Riga grew from a small fortified town into a huge industrial metropolis [20]. The city had a diverse and technologically advanced scope of factories prior to WWI. The industry was dominated by metalworks and mechanical engineering factories, chemical industry, textile industry, food production, and timber industry. However, at the beginning of the 1920s, Riga was a huge metropolis recovering from the devastating years of WWI and the war for independence. Most of the machinery and workers from the city's factories as well as raw materials were evacuated to inland Russia at the beginning of the war [17], leaving halls of formerly busy and prosperous enterprises wide and empty.

The industrial resume during the 1920s was slow; there were challenging tasks ahead of the entrepreneurs and owners of the factories: to restart the production process, find new machinery, ensure supply chains of raw materials, sometimes relocate the enterprises, or even find a new use for the now empty premises, along with ensuring financial background for all those activities. The leading enterprises in 1925 were the tobacco factory "A. S. Maikapar", leather factory "O. Vildenbergs", and textile factories "Lenta" and "Rīgas tekstilfabrika" [17], all operating on their historical premises. Comparing the data on factories in 1920 and 1930, the number of enterprises grew from 310 to 1147, and the number of employees from almost 9.000 to more than 48.000 in 1930 [6] – a true testimony of a decent recovery. The impact of the global economic crisis led to the highest unemployment rates around 1932. Strong state subsidies to locally produced goods and high taxes on imported ones, the leadership coup in 1934, and restructuring enterprises from private to state-owned in several important industries helped to stabilize the situation [17]. This development of events characteristic



Fig. 3. Telephone exchange at Krišjāņa Barona iela 69. Architect Dāvids Zariņš. 1928



Fig. 4. Telephone exchange at Krišjāņa Barona iela 69, before recent renovation [photo: Jānis Krastiņš]

throughout Europe was criticised not only by Soviet historians [29], but also by western ones like S. Pollard [30], advocating for a free flow of goods and concentration of technological development in specialized enterprises and regions. However, the previous industrial experience both in Riga and Liepāja put Latvia in a context different from its nearest neighbours: the country was struggling to regain its former industrial power instead of just striving to become a newcomer in industrial world like Lithuania or Poland.

At the end of the 1930s, metalworking was the leading industry in a number of enterprises in Riga, while textile industry was dominating by numbers of employees; value of production was the highest in food production [29]. Statistical data from 1939 on industrial enterprises of Latvia with more than 100 employees, collected by Edmunds Krastiņš [17], provides an insight into the functional structure of industrial production in Riga. There were 17 large food production companies in Riga (including three tobacco factories), 6 of them were established before WWI, while 6 – after 1934, mostly new state companies created on the basis of already existing factories; most of them were operating inside original premises from the turn of the 19th–20th century. Some of the food processing factories were using adapted premises, for example the dairy company “Rīgas piensaimniecības sabiedrība” (current name – “Rīgas piensaimnieks”) operating on the site of the “Russo-Balt/ Russisch-Baltische Waggonfabrik” carriage factory.

Regarding production value, the second most important industrial branch in Riga at that time was the textile industry [29]. There were 24 factories with more than 100 workers operating in Riga (however, the largest textile factory was in Jelgava). A third of them were established before WWI, 9 factories were established during the 1930s – some of them were operating on premises built especially for them, in new areas.

Mechanical and electrical engineering and metalworking industries were following, led by “VEF” (Valsts elektrotehniskā fabrika / State Electrotechnical Factory), operating on the premises of the former factory “Union” (established in 1898). Altogether, there were 19 companies with more than 100 workers in Riga, including 4 large bicycle factories and 3 railway carriage workshops [17]. Most of those companies were either using their original premises built before WWI (even if the company name had changed), or they were located or moved into premises built for another enterprise that ceased to exist. For example, “Foto-radio centrāle A. Leibovics” (established in 1928, renamed “Radiotehnika” after WWI) was moved to former “Zeiss” factory at Mūkusalas iela 41 in 1938 (est. 1914; conversion by engineer E. Stolpers, 1939 [19]); the bicycle factory “Ērnepreiss” moved into their newly built premises at Brīvības gatve 193 (architect Aleksandrs Klinklāvs) in 1936.

Production values of the chemicals and timber industries made them come in the 4th and 5th place in Riga. However, the number of timber production companies was higher than chemicals’ – 20. Most of the timber industries were established during the 1920s and 1930s, either sawmills or veneer factories, but also furniture factories. Most of the operating chemical factories were established during the 1920s; “Rīgas eļļas spiestuve” (the former “V. Hartmann”) was taken over by the company “Linols”, showing once more that the use and re-use of existing facilities was very common in Riga. However, the largest factory of Riga prior to WWI, “Provodnik”, was unable to restart production due to 95 % of its actives lost during its evacuation to Russia; the workers were taken on by other rubber factories [17]. New factories “Kvadrāts”



Fig. 5. Administrative building of the confectionery factory “V. Ķuze” at Artilērijas iela 55. Architect Aleksandrs Klinklāvs. 1934



Fig. 6. Orthopaedic workshops of the Red Cross. Contemporary view

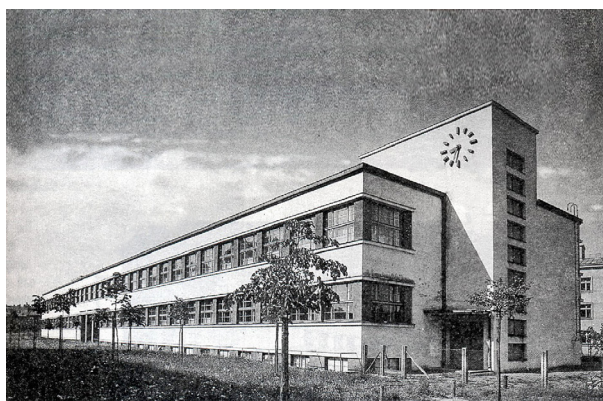


Fig. 7. Orthopaedic workshops of the Red Cross at Pērnavas iela 62. Architect Aleksandrs Klinklāvs, 1933. The period photo [19]

and “Varonis” were opened instead, in other premises, either new or adapted, ensuring the supply of rubber goods and tires.

Clothing and footwear industry that produced mostly for the home market followed the above-mentioned industries with just half of the production values of the previously discussed exporting industries. Only two of the factories were established at the end of the 19th century, while the rest of the 13 were split almost in half on their establishment during either the 1920s or 1930s [17]. Mineral processing industry had even smaller production values, but had long-term brand value regarding china and porcelain products of the factories “Kuznecovs” and “J. C. Jessen porcelāna fabrika”, glassware products of “Ilģuciema stikla fabrika” and of five



Fig. 8. Workers canteen, now – changing rooms for employees, Riga Tram Depot at Brīvības iela 191, Architect Nikolajs Bode. 1937

more glassware factories, all operating on the historical premises built before WWI. Last but not least, plasterboard sheets *riģipsis* were produced by the factory “Rīgas ģipsis” [23]. A few leather factories were also operating in Riga, mostly on their historical premises.

The most important paper industry factories of Latvia operated outside of Riga, but some paper and carton factories operated in the city: one in the centre and two – on the outskirts of the city, all located on premises from the turn of the 19th to 20th century. The printing industry was more prominent regarding production values: 3 companies out of 12 were operating already before WWI, 6 were established by the Latvian state immediately after gaining independence to ensure various government demands [17]. Only one of the printing presses with more than 100 employees was established and built during the 1930s – “Rota”, but there were smaller ones, too.

Considering the industrial growth during the beginning of the 20th century and the 1920s, planning of new industrial areas in Riga became a crucial task for the new development plan of the city. To ensure better living conditions in the central areas of the city, Arnolds Lamze, the architect responsible for the design of this plan, suggested moving factories further away from the centre to areas allowing for necessary and unpredictable expansion along with good connections to railroads and port facilities provided [21]. One of the suggested sites for industrial expansion was the Meadows of Spilve, on the left side of the Daugava River. The other suggested site was by the Dole Island, next to the proposed 2nd hydroelectrical plant of Riga; however, this area was outside of the administrative borders of the city of Riga,



Fig. 9. Entrance building and production building of “Rīgas vilnas rūpniecība” at Brīvības gatve 222. 1937

therefore it was not analysed more deeply (however, recent history has shown that industrial expansion in areas flanking the very borders of Riga is a characteristic and on-going process during the last 20 years for the city). Construction of small-scale satellite towns next to Riga was also Lamze’s idea based upon urban planning tendencies in France. The plan was not approved by the government as the construction policies shifted towards creating new government buildings and representational sites; still, the plans and writings by Lamze remain important analytical testimonies to the urban and industrial development of Riga during the first half of the 20th century.

Architectural features of industrial buildings of Riga during the interwar period

Rapid development of structural engineering that begun with the industrial revolution was one of the factors along with cultural and urban transformations that led to the creation of the Modern Movement and contemporary architecture, according to Kenneth Frampton [11], marking “Fiat-Lingotto” factory in Turin, Italy as the earliest case of the white reinforced concrete Modern Movement architecture (1915–1923). The Boat Store in Sheerness Naval Dockyard, UK (1858–1860) is considered the oldest proto-modernist iron-frame structure [7]. The first proto-modernist factories in Riga were built shortly before WWI.

While several of the existing enterprises of Riga in the 1920s were considering re-opening and re-start of production, there were other entrepreneurs looking for new business opportunities. The first factory built in Riga after WWI was Baltic India Rubber Company “Kvadrāt” (Gumijas rūpniecības akciju sabiedrība “Kvadrāts”) at Latgales iela 322 (Fig. 1), designed by architect Wilhelm Ludwig Nikolai Bockslaff and built in 1925 [18]. The massing of factory buildings as well as proportions and elements used for detailing of the brick facades strongly remind of the design approach used for apartment buildings and factories constructed prior to the war: wide *lesenes* accentuate verticality of facades, windows are also elongated vertically, while pediments and the tower signal of stability and classical values. Despite the competition from other rubber factories soon becoming fierce, “Kvadrāts” survived and achieved great results; it was heavily expanded and architecturally transformed during the 2nd part of the 20th century, therefore being better known by its buildings from the 1970s and its post-war name “Sarkanais kvadrāts” (“Red Square”), currently in the gradual process of functional



Fig. 10. Textile factory “Brāļi Svetlanovi” at Katoļu iela 21



Fig. 11. Building of printing press "Rota" at Blaumaņa iela 38/40. Architect Alfrēds Birkhāns. 1934 [photo: Jānis Krastiņš]



Fig. 12. Building of printing press of joint stock company "Riti" and newspaper "Segodnya" at Dzirnavu iela 57. Architect Alfrēds Birkhāns. 1939

and architectural transformation (Fig. 2).

The first industrial heritage building reflecting contemporary architectural trends belonging to the industrial heritage from the interwar period was a telephone exchange building designed in 1928 by architect Dāvids Zariņš at Krišjāņa Barona iela 69 (Fig. 3 and Fig. 4) with its impressive jagged gable [19]. A similar detail reminding of a rising sun was repeated on a smaller scale in lunettes above the ground-floor windows. Plastered fluted lesenes stress the verticality of the façade and spiritually elevate the image of telecommunications of this rather modest three-storey building. The details bring the structure closer to Art Deco vibe than to Modern Movement architecture. The building was recently renovated and converted into offices; the light green colour in a shade akin to Art Nouveau period adds a touch of contemporary elegance to the building. Next year the same architect designed a post office at Bāriņu iela 10, in Pārdaugava District [18]. Here, the verticality was accentuated again by lesenes, while the geometry of composition is dominated by rectangular elements, the expressive entrance portal being the most elaborate detail of this building.

A new production building of the confectionery factory "V. Ķuze" was erected in 1923 in the courtyard on the site at Artilērijas iela 55 by architect Wilhelm Hoffmann. In 1934, a representative, street-facing administrative building of the factory was built containing a workers' canteen, hall for culture and sports events, and the owner's apartment, designed by architect A. Klinklāvs (Fig. 5). White plaster, horizontal ribbon fenestration, delicate railings on balconies and the elegant placement of the logotype and factory name presented the enterprise as a contemporary and luxurious producer and entrepreneur. Unfortunately, the building is in a bad shape currently; original window frames have survived only on the first and second floor windows, while the lettering in metal is completely lost.

In 1931–1933, another, just two-storey high office and production building for a foreign pharmaceuticals company, "F. Hoffmann–La Roche & Co" was built almost at the same time at Miera iela 25 (architect A. Klinklāvs, Fig. 14) [19]. The building rests on a structurally innovative foundation slab; its facades with ribbon-like fenestration are clad in



Fig. 13. Main building of the chocolate factory "Laima" at Miera iela 22. Architect Staņislavs Borbals. 1939



Fig. 14. Office building of "F. Hoffmann–La Roche" at Miera iela 25. Architect Aleksandrs Klinklāvs. 1931

natural stone and reflect language of the Modern Movement. The building was recently renovated to host the same company who commissioned the original design [24]. Orthopaedic workshops of the Red Cross of Latvia (Latvijas Sarkanā Krusta Ortopēdiskās darbnīcas) at Pērnavas iela 62 (Fig. 7) were designed in 1933 by the same architect [19], and, due to being a production facility can be also attributed to industrial heritage. A horizontally elongated volume possesses a certain monumentality characteristic to international factories of the period, original fine ribbon fenestration accentuates the elegance of the architectural design. The building has not lost its character even after

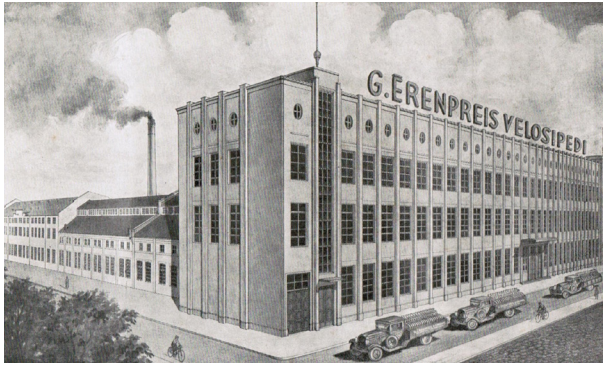


Fig. 15. "Ērenpreis" bicycle factory at Brīvības iela 193, Architect Aleksandrs Klinklāvs. 1936–1938. Historical image [22]



Fig. 16. Workshop for tram carriages at Klijānu iela (address: Brīvības iela 191). Architect Nikolajs Bode. 1939



Fig. 17. Transformer substation at Stadona iela 1. Architect Artūrs Ramanis. 1939



Fig. 18. Small transformer substation, typical design, at the corner of Latgales iela and Katoļu iela. 1922–1929



Fig. 19. Small transformer substation, typical design, at the corner of Brīvības iela and Unijas iela. 1922–1929

extension two floors higher in the 1970s (Fig. 6). Characteristic feature of the period was attention directed to the improvement of the working conditions and well-being of factory workers. A number of canteens (sometimes called club houses) were built and organized for workers during the 2nd part of the 1930s all around Riga. For example, a canteen for workers of public transport was built in 1937 at Klijānu iela (address at Brīvības iela 191, architect Nikolajs Bode) [5]. Towards the street, it is a small and simple two-storey building with elongated, low window band on the ground floor and a small, round window on the first-floor façade, while its stairwell is marked by a narrow vertical window characteristic to Modern Movement buildings of the period (fig.87), while more elaborate massing is created for courtyard façade. These details reflect the language both of the Modern Movement and Art Deco. The building was recently renovated, and the fresh, white walls together with red brick lines around the windows and entrance portal provide a fine treat for an eye. Successful development of the textile industry led to new construction and also to the re-use of other, empty and abandoned factories for textile production. For example, the former steal tool production factory "Salamandra" in the Jugla neighbourhood in Riga was reused by the textile factory "Rīgas audums". One of the new wool factories belonging to joint stock company "Rīgas vilnas rūpnieks" was built at Brīvības gatve 222 in 1937 (Fig. 9). Currently the original three-storey grey building is rented out to small businesses and, along with its small original entrance pavilion and buildings from later periods (of the 1970s and 1980s) located deeper inside the plot, awaits regeneration. There is another former textile factory just next to it, with all the structures already altered (also built in 1937; called "Astotais marts" during the 2nd part of the 20th century); in its courtyard, small traces of industrial origin remain still noticeable. Two knitwear factories were established in Riga during this period: "Māra" (most recent name; former textile factory "Zvaigzne" of the joint stock company "Šterns & Meilāhs"), established in 1925 at Ernesta Birznieka-Upīša iela 21, its street-facing structures added in the 1970s, and recently redesigned into offices, and "Brāļi Svetlanovi"(renamed "Sarkanā Baltija" in 1940, after WWII one of production workshops of a larger textile enterprise "Sarkanais rīts"), a narrow reinforced-concrete frame structure with large street-facing windows and Art Deco inspired lesenes, still serving for textile production purposes at Katoļu iela 21 (supposedly late 1930s, Fig. 10). Two printing presses designed by the architect Alfrēds Birkhāns were built: "Rota" at Blaumaņa iela 38/40 (1934, Fig. 11) and the printing press "Rīti" and headquarters of the newspaper "Segodnya" at Dzirnava iela 57 (1939, Fig. 12). The first is a five-storey structure originally built between apartment buildings that line perimeteric block of buildings. All its surfaces are coated in artificial stone and displays the canonical language of the Modern Movement with accentuated horizontality and two semi-circular bay windows [19]. The second is a special, more than 32 metres tall building aspiring a sky-scraper image. In this case, the Riga Construction Authority allowed to violate the building height of 21.3 m allowed in the Riga building regulations, justifying it allegedly with the "special urban planning situation", even though the specific plot of land in the corner of the block does not differ in any way from other plots of land in the corners of street blocks. [18]. The verticality of the architectural composition enhanced by lantern on the top of the building reflects the aesthetics of Art Deco, while the series of classical columns on the façade uniting the third and fourth floors reflects neo-eclectic fashion.

Established in 1924, the chocolate factory "Laima" had its main building at Miera iela 22 (Fig. 13, just across the street from "La Roche" building, Fig. 14) completed in 1939 (architect Stanislavs Borbals). Elegant albeit of a special, heavy elegance of the façades, the four-storey structure contained production halls, a shop, workers' changing rooms and a canteen as well as the office areas. Currently, production process has been moved away from the site along with one of the most characteristic industrial features of the factory – the smell of a freshly boiled chocolate that had been permeating the whole district for almost a century; a museum of chocolate remains in part of the building. Several production buildings of modest architectural detailing from the 1930s and the 2nd part of the 20th century formerly situated in the courtyard have been recently demolished providing space for public events.

The prospering bicycle factory "Ērenpreiss" was one of the new enterprises moved from premises rented from another, former bicycle factory "A. Leutner" to newly built headquarters at Brīvības iela 193 (architect A. Klinklāvs, 1936–1938, Fig. 15). Once an unplastered yellow brick building, it still rises prominently next to a railway line crossed by the viaduct "Gaisa tilts". During the Soviet time, the factory was renamed "Sarkanā zvaigzne"; the building was extended adding one floor. It continued producing bicycles and later specialised in the production of mopeds; however, the factory was closed in 2001, courtyard buildings from the 2nd part of the 20th century were demolished soon afterwards, and the original factory building remains empty since then [22]. Due to its urban location and well-proportioned architectural design and contemporary appeal, the factory was one of the iconic landmarks of industrial development and prosperity both during the interwar period and the 2nd part of the 20th century. However, in the last two decades the building has not attracted investors for regeneration, and it remains covered by protective nets and large-scale advertisements. Large halls were built for the needs of the public transportation sector: a repair workshop (Fig. 16) for the Riga Tram Depot inside the territory of the Depot at Brīvības iela 191, best perceived from Klijānu iela (1939, architect Nikolajs Bode [5]), and a long-span bus garage hall at Klijānu iela 28 (1939, engineer A. Raudseps et. al.), a reinforced concrete structure with barrel roof [5]. Currently both structures belong to the Depot, and the municipally-owned company is working on a controversial renovation of all of its area met by a public outcry on the recent demolition of a few older structures from the turn of the 19th and 20th century.

The construction of Ķegums Power Plant (1936–1939) on the river Daugava marked a new era for Riga and Latvia. It was the most ambitious project of the Republic of Latvia with the intention to rise and develop electricity consumption [26]. The power station was designed by the famous architect Eišens Laube [23] and is now a listed heritage. To ensure the distribution of electricity in Riga, the large transformer substation at Stadiona iela 1 (architect Artūrs Ramanis, 1939 [19]) was built, an impressive and dynamic massing with a semi-circular central avant-corps for the machine hall, and red brick accents on the corners of the building and between the windows (Fig. 17). Regarding electricity supply to the city, a peculiar feature of Riga was local transformer substations resembling small temples decorated with a rising sun on fronton that were scattered all around the city since the 1920s (Fig. 18 and 19); currently, most of them are not serving the original purpose anymore, either conserved or decaying.

Conclusions

Due to intense industrial development of Riga prior to WWI, and due to the economic hardships of the interwar years, most of industrial production activities were carried out on already-existing factory premises during the interwar period; only few completely new factories were built. Compared to the previous period of industrialization, the scope and scale of industrial heritage left from the 1920s and 1930s appears rather modest, scattered in the urban environment of Riga Historical Centre and various parts of the city beyond it. The objects mostly cover one plot in closed-street-block areas of the city.

During the interwar period, the architectural character and style of the industrial buildings was more related to the architectural composition and artistic features of the other types of buildings compared to the first industrial period of Riga when there were stylistic differences between industrial buildings and those designated for the residential and public needs. Art Deco, the Modern Movement and Neo-eclecticism entered the architectural discourse and construction scene each after another in a quick succession, producing representative examples of factories and technical facilities. Yet most of the factories and premises from the period belong to the Modern Movement architecture.

Every scope of particular heritage testifies to the interaction between society, economic processes, and artistic development. On the one hand, the industrial heritage of Riga from the 1920s and 1930s is an impressive example of highly skilled and diverse application of the best principles of the Modern Movement by Latvian architects, executed with great care and responsibility for structures large and small. On the other hand, those buildings testify to the current controversial social and professional attitude towards cultural heritage in general and the industrial heritage from the "independence years" in particular: most of the industrial heritage from the interwar period remains in good condition, still in use or converted for new, contemporary functions, meanwhile there are sad cases of deteriorating or drastically altered structures, mostly due to poor technical conditions or adaptation challenges. Recent renovations and reuse of the industrial heritage with the Modern Movement features testify that the recognition of its importance is rising. However, the neglected and lost cases suggest that current economic factors have a great impact on protection intentions, asking for more active municipal and state position towards heritage protection, as well as for reconsideration of complex measures in support for maintenance. Defining the architectural and cultural values that the particular industrial heritage expression upholds, along with finding new functions and potential temporary and long-term users are essential for those structures to survive in high competition with other types of cultural heritage. Considering those factors, protection of the industrial heritage from the 1920s and 1930s should be strengthened within the existing heritage protection system, either by listing some more of the particular landmarks or by expanding the borders of already protected areas, or by marking new urban ensembles as protected areas in order to emphasize the importance of those cases for the cultural and general history of Riga and Latvia.

References

1. Anteniške, A. Industriālā mantojuma mākslinieciskie aspekti = Artistic Features of Industrial Heritage. Scientific Proceedings of Riga Technical University, 2005, Vol. 2, Architecture and Construction Science, No. 6, p. 10–19.
2. Anteniške, A. Listing and Protection of Industrial Heritage of Latvia. *Fabrik&Bolig*, 2023, Vol. 41, No.1, p. 66–77.
3. Bergeron, L. The heritage of the industrial society. *Industrial*

- Heritage Re-tooled. The TICCIH guide to Industrial Heritage Conservation. The International Committee for the Conservation of the Industrial Heritage (TICCIH), Carnegie Publishing Ltd, 2012, p. 31–37.
4. Biedriņš, A., Liepiņš, E. Latvijas industriālā mantojuma ceļvedis = Guide to Industrial Heritage of Latvia. Rīga: Latvijas industriālā mantojuma fonds, Valsts kultūras pieminekļu aizsardzības inspekcija, 2002. 108 p.
 5. Biedriņš, A., Liepiņš, E. Rīgas sabiedriskais transports no 19. gs. vidus līdz mūsdienām. Rīga: Rīgas satiksme, 2015. 376 lpp.
 6. Bulmerinks, E. Rīgas rūpniecība. Rīga kā Latvijas galvaspilsēta. Rīga: Rīgas pilsētas valde, 1932, 123.–136. lpp.
 7. Darley, G. *Factory*. London: Reaktion Books, 2003. 224 p.
 8. Emsiņš, J. Koks Latvijas valsts un tautas dzīvē. Rīga: Studentu biedrība "Šalkone", 2014. 202 lpp. Available also at: https://www.mvzf.lbtu.lv/sites/mf/files/files/lapas/Koks_Latvijas_Valsts_Un%20Tautas_Dzive_s.pdf
 9. Fellman, S., Isacson, M. Three Industrial Periods – and their Significance for Industrial Heritage in the 2020s. *Fabrik & Bolig*, 2023, Vol. 41, No.1, p. 8–25.
 10. Fragner, B. Adaptive re-use. Industrial Heritage Re-tooled: The TICCIH guide to Industrial Heritage Conservation. The International Committee for the Conservation of the Industrial Heritage (TICCIH), Carnegie Publishing, 2012, p. 110–117.
 11. Frampton, K. *Modern Architecture. A Critical History*. London: Thames & Hudson, 1980, 1985, 1992, 2003. 376 p.
 12. Grosa, S. Arhitektūra. Latvijas mākslas vēsture, IV sējums: Neoromantiskā modernisma periods 1890–1915 (E. Kļaviņš red.), Rīga: LMA MVI, 2014, 405.–470. lpp.
 13. Grosvalds, I., Alksnis, U. Alkoholisko dzērienu, cietes un cukura ražošana Latvijā (1918–1944) = Production of Alcoholic Beverages, Sarch and Sugar in Latvia (1918–1944). *Scientific Proceedings of Riga Technical University*, 2005, Vol. 8, The Humanities and Social Science Science. History of Science and Higher Education, No. 15, 97.–105. lpp.
 14. Grosvalds, I., Alksnis, U., Meirovics, I. Celulozes, papīra, ziepju un medikamentu ražošana Latvijā (1918–1944) = Production of Cellulose, Paper, Soap and Medicine in Latvia (1918–1944). *Scientific Proceedings of Riga Technical University*, 2005, Vol. 8, The Humanities and Social Science Science. History of Science and Higher Education, No. 15, 90.–96. lpp.
 15. Grosvalds, I., Alksnis, U., Meirovics, I. Gumijas, plastmasu, ādu, laku un krāsu ražošana Latvijā (1918–1944) = Production of Rubber, Plastic, Leather, Lacquer and Paint in Latvia (1918–1944). *Scientific Proceedings of Riga Technical University*, 2005, Vol. 8, The Humanities and Social Science Science. History of Science and Higher Education, No. 15, 85.–89. lpp.
 16. Gumijas rūpniecības akc. s-ba "Kvadrats" / Baltic India Rubber Company "Quadrat" Rīgā (Latvijā) [accessed online 30.05.2024.]. <https://dom.lndb.lv/data/obj/file/18067027.pdf>
 17. Krastiņš, E. Latvijas rūpniecība XIX–XXI gadsimtā. Rīga: Jumava, 2018. 328 lpp.
 18. Krastiņš, J. Latvijas republikas būvmāksla. Rīga: Zinātne, 1992, 236 lpp.
 19. Krastiņš, J., Lejnieks, J., Redberga, Z. DoCoMoMo National Register – Latvia (DoCoMoMo Latvian Working Party). Rīga: Mantojums, 1998. 68 p.
 20. Krastiņš, J., Strautmanis, I., Dripe, J. Latvijas arhitektūra no senatnes līdz mūsdienām. Rīga: Baltika, 1998. 312 lpp.
 21. Lamze, A. Lielrīgas teritorijas problēma. Rīga kā Latvijas galvaspilsēta. Rīga: Rīgas pilsētas valde, 1932, 769–808 lpp.
 22. Liepiņš, E., Sereģins, J. No Leitnera līdz Erenpreisam. Velosipēdu rūpniecība Latvijā 100 gados = From Leutner to Erenpreis. 100 Years of Bicycle Manufacturing in Latvia. Rīga: Latvijas Industriālā mantojuma fonds, 2009. 208 lpp.
 23. Martinsons, I. Arhitektūra. Latvijas mākslas vēsture, V sējums: Klasiskā modernisma un tradicionālisma periods 1915–1940 (E. Kļaviņš red.), Rīga: LMA MVI, 2016, 471–563 lpp.
 24. Martinsons, I. Nams ar karmu. Roche = House with Karma. *Latvijas Arhitektūra*, 2020, No. 149., 58.–63. lpp.
 25. Nisser, M. Industriālais mantojums pārejas periodā = Industrial Heritage in Periods of Transition. *Industrial Heritage in the Modern Urban Environment*. Rīga: Rīgas dome, 2003, 14.–18. lpp.
 26. Pieci gadi, 1934.–15. V. –1939. (R. Bērziņš-Valdēss, S. Vidbergs red.) Rīga: Pagalms, 1939. 238 lpp.
 27. Pollard, S. *Peaceful Conquest. The Industrialization of Europe 1760–1970*. New York: Oxford University Press, 1981; 1992. 451 p.
 28. Spāritis, O. "Eternal Battle" with Compromises and Constraints: Revitalisation of Medieval Architecture. *Landscape Architecture and Art*, 2022, Vol. 20, No. 20, p. 37–42.
 29. Spreslis, A., Valeskalne, V., Žagars, Ē., et. al. Sociālekonomiskā attīstība un strādnieku šķiras cīņa Rīgā nacionālistiskās buržuāzijas kundzības laikā (1920.–1940. g.) Rīga sociālisma laikmetā. Rīga: Zinātne, 1980. 61.–132. lpp.
 30. Stradiņš, J. Rīgas industriālais mantojums un zinātņu vēsture = Industrial Heritage of Riga and the History of Sciences. *Industrial Heritage in the Modern Urban Environment*. Rīga: Rīgas dome, 2003, 7.–13. lpp.
- ### Authors
- Anita Anteniške**, Mg. arch., lecturer on architectural design and returning PhD student at Institute of Architecture and Design, Riga Technical University, Āzenes iela 6, Riga, Latvia. E-mail: aan@latnet.lv
ORCID ID: <https://orcid.org/0000-0002-1064-3291>
- Jānis Krastiņš**, Dr. habil. arch., Professor at Institute of Architecture and Design, Riga Technical University, Āzenes iela 6, Riga, Latvia. E-mail: janis.krastins_1@rtu.lv
- ### Kopsavilkums
- Rīga ir slavena ar savu industriālo izaugsmi 19. un 20. gadsimta mijā un 20. gadsimta 2. pusē. Nostarpkaru perioda (1920–1940) labāk zināmi ir rūpniecības ražojumi, taču ražošanas darbības un uzņēmumu ietekme uz arhitektūras un pilsētvides attīstību ir pētīta maz. Raksta mērķis ir izgaismot šī perioda industriālo mantojumu. Darba metodoloģija ietver vēstures avotu izpēti un analīzi, divu gadu desmitu laikā veiktus apsekojumus dabā, fotofiksāciju un salīdzinošo analīzi par šī perioda industriālā mantojuma ēkām. Rūpniecības uzņēmumu darbāgaldū, tehniskā aprīkojuma un darbaspēka evakuācija no Rīgas rūpniecām Pirmā pasaules kara sākumā bija postoša jaunās Latvijas valsts ekonomiskajai attīstībai un ražošanas atsākšanai; pat nesen uzceltās plašās ražošanas halles bija tukšas. Taču tehnoloģiju attīstība un patēriņa pieprasījums rosināja vairāku esošo rūpniecību agrīnu atkārtotu izmantošanu jaunām funkcijām, tostarp ražošanai, uzglabāšanai, tehnikas remontam utt. Pamazām uzplauka gan jau esošās, gan arī jaunas nozares un uzņēmumi, nodrošinot un veicinot jaunas, laikmetīgas arhitektūras ienākšanu Rīgas pilsēttelpā. Dominējošā laikmeta arhitektūras stilistiskā tendence bija Modernā kustība, taču jūtama bija arī Art Deko un neoeklektisma klātbūtne, savukārt transporta infrastruktūras vajadzībām tika būvētas arhitektoniski vienkāršas un konstruktīvi racionālas halles. Pašreizējais agrāko un vēl darbojošos rūpniecības ēku stāvoklis ir variabls: dažas ēkas tika telpiski un funkcionāli transformētas jau nākamajās desmitgadēs, citas ēkas tika pamestas 20. gadsimta beigās, jo beidza pastāvēt uzņēmumi, kuri tās lietoja. Modernās kustības arhitektūras vērtības apzināšana un industriālā mantojuma nozīmes atzīšana jau ir veicinājusi vairāku šā perioda ēku atjaunošanu un pielāgošanu jaunām vai līdzīgām funkcijām, tāpēc šobrīd varētu būt īstais laiks pārskatīt starpkaru industriālā mantojuma vērtību un stiprināt tā arhitektonisko liecību aizsardzības procesus Rīgas pilsētvīdē un vēsturiskajā urbānajā ainavā.