Erich Mendelsohn's Red Banner Factory and Saint Petersburg's Industrial Architecture

Margarita Shtiglits, Anna Vallye

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1. Red Banner Textile Factory, Leningrad; Erich Mendelsohn, architect, 1924–26. Photo by Richard Pare.

Margarita Shtiglits

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Leningrad industrial architecture of the heyday of the Russian avant-garde in the 1920s and 1930s is represented by outstanding monuments, including some world-class masterpieces. Early industrial architecture in Leningrad developed characteristic trends of the previous period. When the Bolsheviks moved the seat of State government to Moscow in 1918, Petrograd ceased to function as a capital, taking on the role of the city of "victorious labor." The former capital inherited an enormous number of industrial structures innovative in both type and construction.

In the early post-Revolutionary years—a period of hunger and devastation—as well as during the civil war, the industrial building stock remained almost unchanged, while its acquired potential was not fully realized. The volume of industrial construction was insignificant during this time, with new construction projects limited to the individual structures necessary for the maintenance of fading city life. These were buildings already under construction since before the Revolution. The first post-Revolutionary years in Petrograd architecture were marked by neo-romantic explorations and a pronounced tendency to archaized styling.

Industrial construction grew in scope after the adoption in 1920 of the State Electrification Plan (GOELRO) by the Eighth All-Russian Congress of the Soviets, which became a program for countrywide economic recovery through the creation of a new energy base for industrial development. Leningrad's industrial resurgence began in the 1920s under the slogan "to catch up to and surpass developed countries." Foreign experts were actively recruited by the state after it had renewed its economic relationships with developed countries, beginning with Germany. During this period, classicized styling in industrial architecture yielded to constructivism—a movement oriented to progressive science and technology, which had strong roots in Saint Petersburg. Already in the 1910s, the aesthetic exploration of the properties of reinforced concrete led to the emergence of utilitarian structures identified as "constructive style." Under the new conditions, the architects' aspiration to express the power of technology and the dynamism of the revolutionary epoch gave a formal eloquence to such structures.

Erich Mendelsohn's Red Banner knitted-goods factory complex is an architectural milestone that has had a notable

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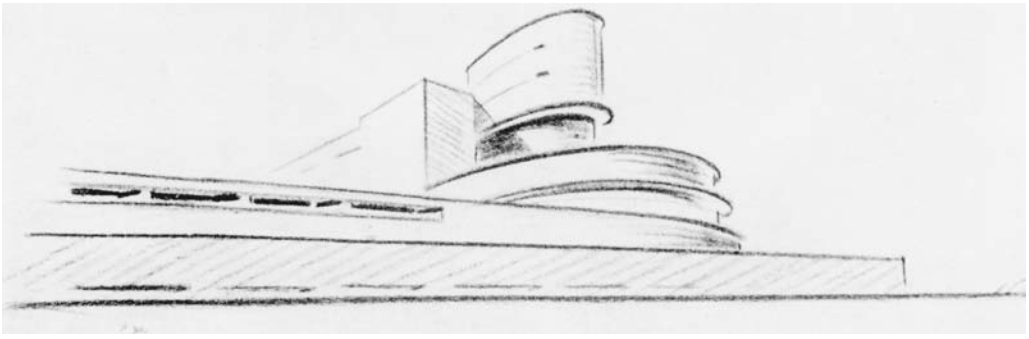
impact on Leningrad constructivist architecture. Its construction between 1926 and 1930 was brought about through a collaboration between the architect and his Leningrad colleagues. In May 1925, engineers at the Red Banner factory construction office developed a design for the expansion of the factory complex. It was rejected by the Commission for the Construction of New Textile Factories. After this failed attempt at in-house design, representatives of the Leningrad Textile Trust left for Germany in August 1925 to acquaint themselves with progressive developments abroad. Mendelsohn was recommended to them in Berlin as the designer of a well-known hat factory in Luckenwalde. Sympathetic to the new government and member of the architectural section of the Society of Friends of the New Russia, Mendelsohn accepted the offer. In September 1925, the Trade Delegation of the USSR signed a design and development agreement with the architect, stipulating the incorporation of the newest architectural trends and progressive construction methods, as well as the provision of a power supply system and technical equipment. Special attention was given to the ventilation system employed by the architect with great success at the Luckenwalde factory.

Mendelsohn enthusiastically began work on the project and, after twelve months, presented the client with three versions of the design. The structure was conceived by the engineer Salomonsen, and the organization of factory production planned by E. Laazer. Plotted on the specified site, the projected building complex was to consist of a long L-shaped, four-story main building and tower, with three adjacent single-story workshops. The dominant form of a power station, situated at the corner of the block, completed the composition. Working drawings for the first stage of construction were produced under the direction of the noted specialists Sergei Osipovich Ovsiannikov and Ipolit Aleksandrovich Pretro, according to Mendelsohn's preliminary design and in general corresponding to the basic conception. The innovative design by a foreigner was opposed by many and inspired blustering polemics in the press. Nevertheless, construction on the first stage of the complex began in the summer of 1926, including the main knitted-goods shop, the bleaching and dyeing shops, and the power station. The entire complex was erected using "popular building teams"[1] in two stages: the first in 1926–29, the second in 1934–37 (Figure 2).

In the process of construction, the original design concept was distorted and simplified. The three bleaching and dyeing shops in the interior court were supposed to be capped by tall ventilation shafts modeled after those at the Luckenwalde factory, but this important element was executed only

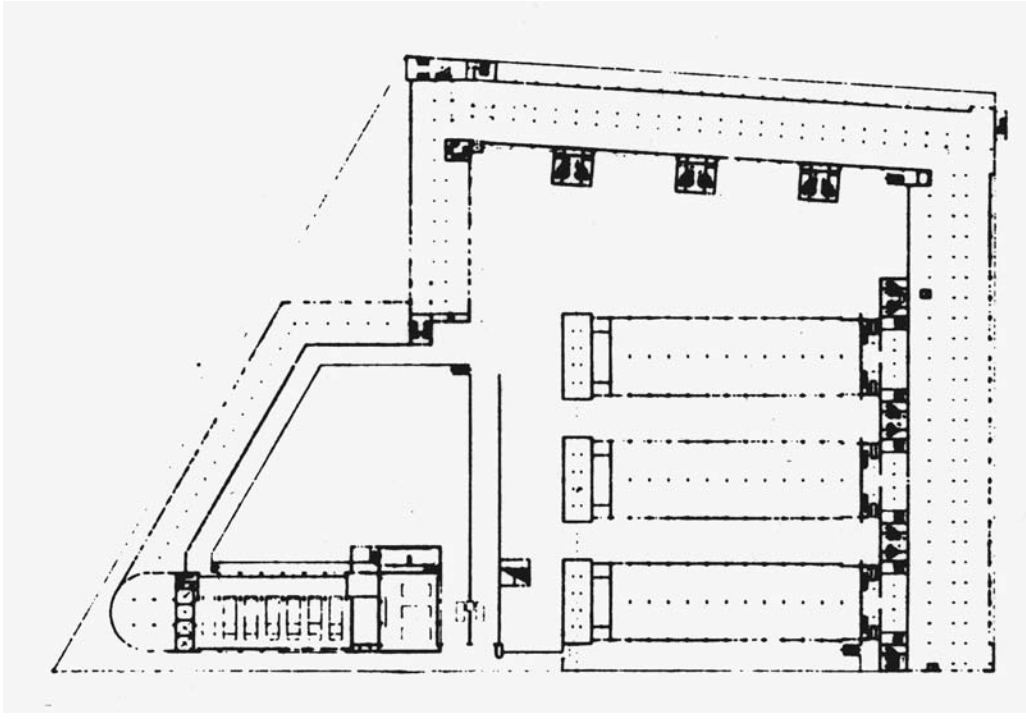


2. Sketch, Red Banner textile factory by Erich Mendelsohn. From Erich Mendelsohn, *Das Gesamtschaffen des Architekten* (Berlin: Rudolf Mosse Verlag, 1930).

above the dyeing shop, and in modified form. The double-tiered organization of the interior court was also not realized, while the spatial structure of the main building was changed, deprived of stairwells and the tower. The power station built in 1926–28 is the only component faithful to the original design. Three rounded volumes of a water tower, equal in diameter, are inserted at the edge of its rectangular block. Full of movement and bold in form, the composition convincingly combines expressionist and functionalist features and embodies the architect's postulate: "function plus dynamism" (Figures 3 and 4).

Irked by multiple attacks on the part of his Russian colleagues and the press, and disappointed by the quality of construction, Mendelsohn was forced to give up oversight of the project, dropping control of the design after the first stage of its development in 1925. Nevertheless, the fundamental principles of his architectural solution are evident in the forms of the complex even today—despite the horrible condition of all of its structures, vacant and crumbling now for almost a decade. The power station corresponds to the original conception, while the main knitted-goods shop building, with an interesting Mondrian-like grid on its southern façade, represents a rather successful example of constructivist architecture.[2]

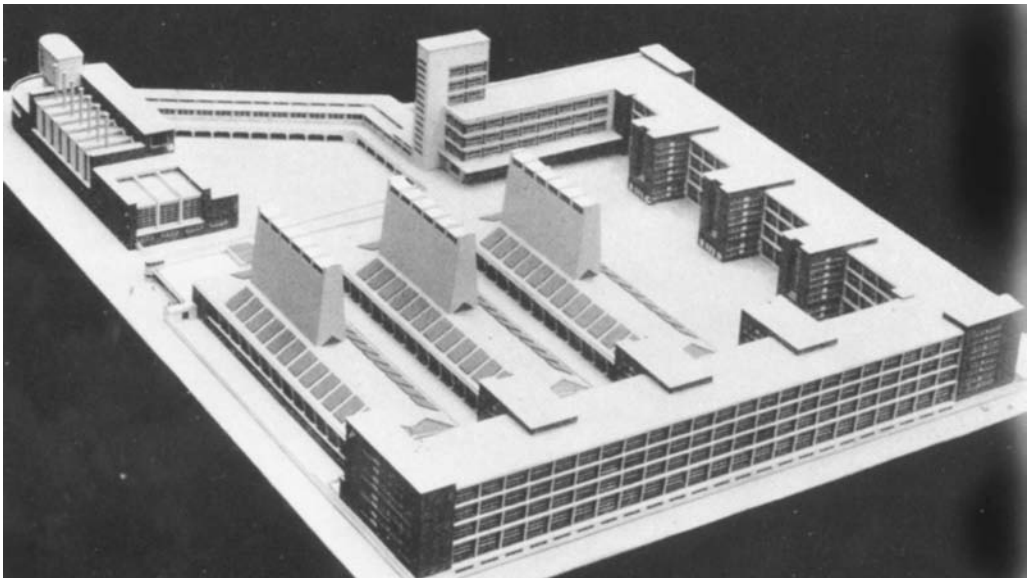
The great architect's project had a strong influence on Leningrad architecture, especially on the work of Noi Trotsky, an outstanding architect of the interwar period who called the factory "a classic example of the new architecture."[3] The 1931–33 S. M. Kirov meat-packing plant complex, built under the direction of Trotsky, is one of the most significant achievements of constructivism. The foundation for the buildings was laid in 1931 on empty swamplands fourteen kilometers away from Leningrad, and the complex was built by "popular building teams" in only thirteen months. The enterprise was to become the center of renewed development and a sort of gate to the city. With its soaring tower, the outward appearance of the complex symbolized the rise of Soviet industrial production. Situated on a plane with its main façade facing the city, the complex visually dominates a large segment of



3. Plan, Red Banner textile factory. From Mendelsohn, *Das Gesamtschaffen des Architekten*.

the surrounding territory. The architects strove to express in it the power and dynamism of the epoch, tying the demands of advanced technology and utilitarian structure to an artistic treatment of form. The factory employed the most recent production process, based on American technology, with all key stages of the production cycle disposed within a single space and maximized mechanization. Every component of the production cycle was isolated in an independent geometric volume, while at the same time all were inseparably united in a single compositional and functional system. The six-story main sausage plant, with an administrative tower, dominates the composition. It is a powerful rectilinear volume with blind walls cut through by concrete cantilevered brackets. A 42-meter tower, dynamically integrated with the main body, serves as the signature element of the ensemble. It is composed of two conjoined vertical planes. The tower contributes a striking expressionist element to the strict constructivism of the complex. There is an observation deck at its top level. The façades of the other buildings in the complex are structured through contrasts of large blank and glazed planes of walls, the latter either fully glazed or with strip windows. The complex received the Grand Prix for architecture and engineering at the 1937 International Exposition in Paris.

Trotsky built a number of industrial structures in Leningrad. "The constructivist style," he wrote, "pushed me—perhaps by accident, perhaps through its own inner logic—toward industrial building."[4] The boiler heat and power plant building



4. Model of Site, Red Banner textile factory. From Mendelsohn, *Das Gesamtschaffen des Architekten*.

(TETs-2) is one of the most expressive examples of Leningrad constructivist architecture. The draft perspective reveals the design concept most clearly: the dynamism and expressiveness of the composition are underscored by means of artistic representation. The building volume, with tall exposed-frame construction, is shaped by a series of sloping, exposed, reinforced-concrete pylons that support bunkers and conveyers. A corner tower, open bridges and galleries—all this, in the words of the architect, "was motivated by the goal of revealing the inner content, finding the characteristic form of reinforced concrete construction."[5]

No less significant for the architecture of the Modern Movement is the unusual case of a built structure by the celebrated architect and pedagogue Iakov Chernikhov, internationally renowned as the author of brilliant architectural fantasies. His remarkable book series has served as a source of inspiration for generations of architects.[6] In his 1930–31 water tower for the cable-making workshop of the Red Nail-Maker factory, Chernikhov strove for dynamic expression and compositional intensity through contrasts of horizontals and verticals. The formal potential of reinforced concrete is fully revealed and realized in the exposed structure of the tower. The water tank is perched high atop a tall and narrow trunk, its curved overhang supported by thin columns. The clash of hard linear and smooth bent forms enhances the formal appeal of this laconic composition. The water tower's silhouette occupies to great visual effect the sight lines formed by the street grid of the Vasilevsky Island's southwest industrial zone.

The 1926 concrete refrigerated warehouse at the Seaport, designed by Andrei Ol and engineered by M. Ia. Shtaerman, is an interesting example of a utilitarian structure combining

in its composition the rationalism and dynamism of the constructivist-functionalist orientation with Art Deco elements. The Poligrafmash factory building of 1929–30 by Nikolai Lansere is a cast-in-place concrete structure with brick cladding. Its formal articulation is based on the contrast of a long, arched main body with a vertical stair tower.

A series of circular bread factories built in Leningrad in the middle of the 1930s are highly expressive structures, organically linked to technology, where the principles of constructivism found their fullest embodiment. The progressive functional solution, which dictated the formal structure of the buildings, was developed by G. P. Marsakov. The mechanized bread-making process was visually expressed here in the tiered cylindrical composition. This talented engineer attempted to expand the concept of circular form from the design of an individual building to the architectural-spatial organization of an entire city.

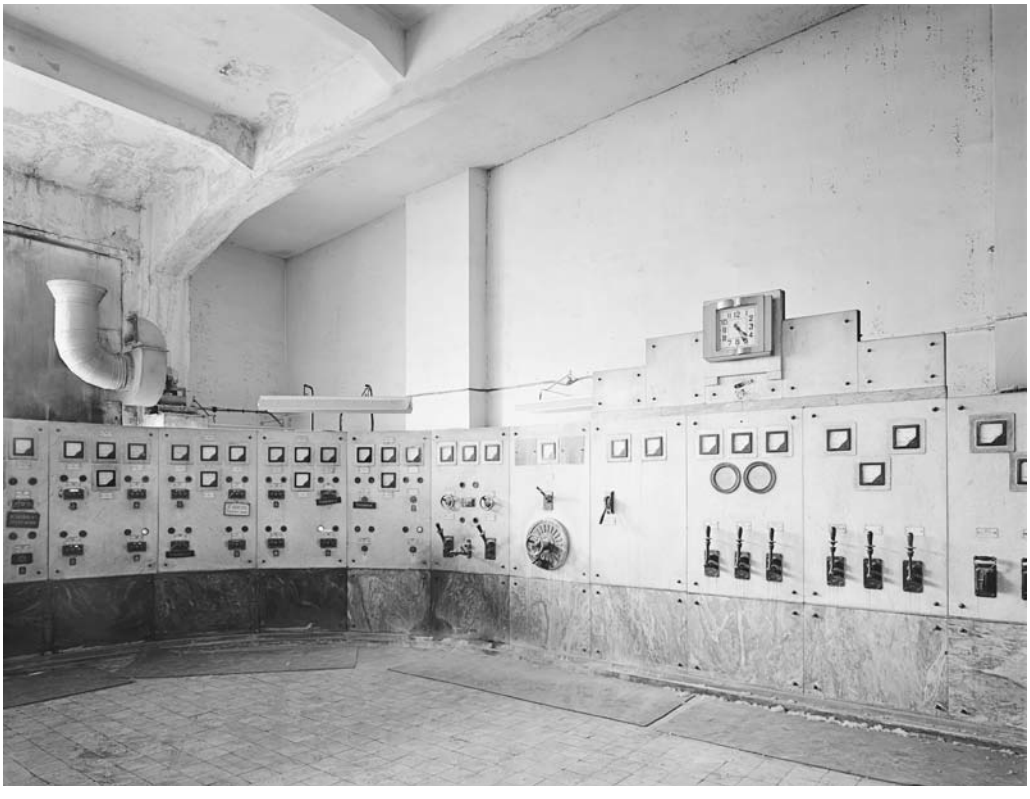
The development cycle of the avant-garde was abruptly broken in the middle of the 1930s. Moreover, institutes for technical research and development organized by building types emerged at that time, and, as a result, many major architects abandoned industrial building. This was the end of the "golden age" of Saint Petersburg/Leningrad industrial architecture; it would never again rise to the same level in subsequent decades. Although industrial buildings were given landmark protection in the beginning of the 1990s, most of these have the lowest designated landmark status, that of local cultural heritage objects, which, in practice, offers a rather circumscribed level of protection. While it appears that industrial structures have full landmark protection, the designation is temporary and easily revoked. The contemporary condition of significant buildings of Leningrad avant-garde industrial architecture leaves much to be desired. Although the buildings are protected, they are in private hands, and the owners do not realize the real value of these masterpieces, which are often not in use and therefore crumbling and deteriorating. Time has not been kind to concrete structures that were not of particularly good quality when built.

The value of the avant-garde as part of our cultural heritage is still little understood by society at large, the government, and even some architects. Works by world-renowned architects worthy of consideration as World Heritage Sites are unused or used most irrationally, placing them in danger of collapse. Numerous efforts on the part of experts to increase awareness of this problem—publications and press appearances, seminars and conferences, contemporary art auctions at abandoned architectural sites, design competitions: the

entire arsenal of means at one's disposal—have so far not brought measurable results.

The contemporary condition of the Red Banner factory is a telling example. Of all the structures in the factory complex, only the power station has the status of a regionally significant landmark—the rest are so-called newly identified cultural heritage objects. We have devoted much effort to the protection and promotion of this avant-garde masterpiece. In 2002–2003, a group of English artists, with the support of the Landmarks Preservation Commission, carried out the installation *Artfabrika* [art factory] on the Red Banner site, with the goal of drawing the attention of the cultural community to this abandoned site. Experts from the Saint Petersburg State University of Architecture and Construction and the Karlsruhe Technische Universität have also proposed a project for the restoration and reuse of the Red Banner factory; unfortunately, their proposal received no response from the city administration. In 2006, at the Saint Petersburg State University of Architecture and Construction, A. Yu. Pastukh presented a thesis project entitled "The Redevelopment of the Red Banner Factory Complex as an International Contemporary Art Center." The new function proposed for the complex was that of an "art factory"—a vital contemporary art entity encompassing artist studios, exhibitions, seminars, classes led by acclaimed artists, symposia, and festivals. A hotel and underground parking lot were also included. The project presupposed a differentiated approach to the extant historic structures: the power station was to be restored; other standing structures were to be restored, with lost portions reconstructed in accordance with the architect's model and a partial rebuilding of former ventilation shafts to be used as media projection screens; the rest of the site was to be used for new construction that would harmonize with and complete the overall composition in outline and proportion. The project won a number of prizes at various student thesis competitions.

Such efforts notwithstanding, actual conditions are unfortunate at this time. The factory site has been recently purchased by a private company unaware of its historic and cultural value. Motivated to maximize their profits, the current owners plan to build a housing development on the property, which will accommodate neither the workshop buildings nor the main factory building. Only the power station is required to be preserved, as a regionally significant landmark. An architectural firm commissioned by the site's owners carried out an analysis of the cultural and historic value of the property, which served as the grounds for the removal of the main factory building and workshops from landmark designation.



5. Interior, Red Banner textile factory, Leningrad. Photo by Richard Pare.

The demolition of these buildings will disturb the formal coordination of the site as a whole. The power station will no longer be the focal point of the overall composition, overwhelmed by the contemporary structures of the housing development. The interesting main factory building, with its Mondrian-like façade design, will be lost.

The present status of the Red Nail-Maker factory water tower, another constructivist masterwork, is also cause for concern. The steel-rolling mill that oversees it is unable to adequately maintain the building, which is out of use, with an aging concrete infrastructure. The Iakov Chernikhov International Foundation, headed by the architect's grandson Andrei Chernikhov, has repeatedly approached the owners of the mill with the request to designate this relatively small building as independent of the overall complex, in order to put it under the stewardship of the Contemporary Art Center. The Foundation is willing to contribute design, restoration, and general construction work on the tower to reclaim its interior as a permanent architecture and design installation. However, because of the owners' refusal and a lack of support from city government, this has not been accomplished.

Other aforementioned structures—such as the Seaport refrigerated warehouse, the circular bread factories, and the meat-packing plant building—are also currently in danger of demolition or of radical reconstruction. We believe that the

attention of the international professional community and the inclusion of the best examples of Leningrad industrial architecture on the World Heritage Site list, together with our own efforts, can contribute to the protection of these structures and help identify the optimal methods of their preservation.

Author Biography
Margarita Shtiglits holds a doctorate in architecture. She is a professor at the Department of Architecture of the Saint Petersburg State University of Architecture and Civil Engineering. She heads the Department of Industrial Architecture at the Saint Petersburg Committee on the State Control, the Use, and the Protection of Historical and Cultural Landmarks. A member of the Union of Architects, she has been engaged since 1975 in the study, protection, and the popularization of industrial heritage. She has published five monographs and more than a hundred articles. She belongs to the International Committee for the Conservation of the Industrial Heritage.

Endnotes
Translated by Anna Vallye
1. The "popular building teams" *(narodnye stroiki)* were teams of factory workers not specialized in construction but who worked on industrial or housing sites in exchange for a more rapid access to accommodation.
2. For a recent study on the building, see Irina Grigorieva's Master's thesis *Erich Mendelsohns Wirken als Architekt in der Sowjetunion* (Munich: Ludwig-Maximilian-Universität, 2003).
3. Noi Trotsky, *Vsesoiuznoe soveshchanie sovetskikh arkhitektorov* (Moscow: n.p., 1935), 142.
4. Noi Trotsky, "O promyshlennoi arkhitekture," in *Mastera sovetskoi arkhitektury ob arkhitekture,* ed. Mikhail Grigorevich Barkhin (Moscow: Iskusstvo), 402.
5. Ibid., 395.
6. Iakov Chernikhov, *Osnovy sovremennoi arkhitektury* (Leningrad: Izdanie len. obshchestva arkhitektorov, 1930); *Konstruktsia arkhitekturnykh i mashinnykh form* (Leningrad: Izdanie len. bshchestva arkhitektorov, 1931); *Arkhitekturnye fantazii* (Leningrad: Izdanie len. obl. otd. vses. ob. "Mezhdunarodnaia kniga," 1933).