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THE BELLY OF BUDAPEST – THE HUNGARIAN CENTRAL MARKET HALL
FROM THE END OF THE 19TH CENTURY AGAINST THE BACKDROP
OF SELECTED EUROPEAN OBJECTS WITH THIS FUNCTION

BRZUCH BUDAPESZTU – WĘGERSKA CENTRALNA HALA TARGOWA
Z KOŃCA XIX WIEKU NA TLE WYBRANYCH EUROPEJSKICH OBIEKTÓW
O TEJ FUNKCJI

Abstract

The nineteenth century was a period of ground-breaking events in the history of humanity relating to the industrial revolution, scientific discoveries, knowledge development and social changes. It was also a time when new types of commercial buildings were being formed and transformations of those that had existed for centuries were taking place. The aim of this article is to present the problems of the Central Market Hall in Budapest by Samu Pecz and compare its architectural solutions with selected nineteenth-century constructions serving the same purpose elsewhere in Europe.

Keywords: market hall, commercial buildings, industrial revolution, Budapest

Streszczenie

XIX wiek to okres przełomowych wydarzeń w dziejach ludzkości związanych z rewolucją przemysłową, odkryciami naukowymi, rozwojem wiedzy oraz przemianami społecznymi. Był to także czas kształtowania się nowych typów obiektów handlowych lub też transformacji tych, które istniały od wieków. Celem niniejszego artykułu jest przybliżenie problematyki Centralnej Hali Targowej w Budapeszcie autorstwa Samu Pecza i porównanie jej rozwiązań architektonicznych z wybranymi, dziewiętnastowiecznymi obiektami o tej funkcji z terenów Europy.

Słowa kluczowe: hala targowa, obiekty handlowe, rewolucja przemysłowa, Budapeszt

1. Introduction

The history of commercial stalls within a single building dates back to ancient times. The first century of our era brought the new shopping district of Rome, the so-called Trajan's Hale, which formed a complex of 150 stores selling wine, olives, gain, etc. Another construction object with a similar function dating back to 1329 is the Souk El-Quattanin (Cotton Market) in Jerusalem – it is covered by a vault with closely set pointed transverse arches, protecting merchants and exhibited goods from adverse weather conditions [7]. Until the turn of the 18th and 19th centuries, the function of trade was usually combined with another function, which was often dominant, such as a town hall, stock exchange, guild headquarters or residential buildings with a store on the ground level.

Significant progress in the development of various forms of commercial facilities occurred in the nineteenth century, when the types of buildings that we are still dealing with today were distinguished such as market halls, shopping arcades and department stores. This phenomenon was accompanied by breakthroughs in the history of mankind: the industrial revolution; the development of research in the field of natural and medical sciences; the introduction of new construction technologies, which gained a clear impetus in the second half of the nineteenth century, and were initiated in England and Scotland in the eighteenth century. A characteristic feature of those times was the orientation of the economy mainly towards agriculture, manufacturing and craftsmanship leading to factory production on an industrial scale. The discoveries of Louis Pasteur and Robert Koch significantly influenced the development of knowledge on bacteriology and hygiene, which had a direct impact on the modernisation of food-selling facilities. Finishing materials for floors (clinker), walls (tile) and sales counters (stone slabs) were established, which could easily be kept clean. It was obligatory to equip commercial buildings with sewage systems, running water and cooling warehouses which were initially iceboxes, and then along with technological progress, chemical cold stores were introduced. These solutions significantly improved the quality of the food products on offer [6, p. 16].

2. Market halls – characteristics of the spatial system, definition, state of research

Market halls dating back to the 19th century were based on a spatial scheme that had already been developed in ancient times. They usually had one or three naves, often in the basilica system. The innovation was the use of the aforementioned technological and material solutions as well as, above all, iron constructions that allowed the inclusion of large spans.

Quoting Professor Małgorzata Omilanowska, the researcher of the exhibition halls, it is possible to define this type of object as a “large-space commercial building, recognizing both its architectural structure and function as a determinant, thus excluding from the definition this category of buildings which, although they perform exhibition functions, are organized in an architectural structure that is not a hall, but for example a sequence of stalls accessible from the arcade” [6, p. 22].

European market halls have not yet been included in a full monograph; however, many publications have been issued regarding selected objects with this function. Bertrand Lemoine prepared a comprehensive study on the Paris halls [3], Thorsten Knoll studied the Berlin halls [2], James Schmiechen and Kenneth Carls wrote a monograph on the British market halls [8], and the aforementioned Professor Małgorzata Omilanowska thoroughly analysed the Warsaw market halls of the metropolitan era. The publication dedicated to the Budapest market hall, which is the essence of this article, is authored by the Hungarian researcher, Gergely Nagy [4, 5].

Market halls, called the “bellies” of the city, created a substitute of the “microcosm”, and at the same time, due to their dimensions and the need for a free transport service to supply them, had a very significant impact on the shaping of urban tissue. Their social and moral role was not without significance. Just as the 19th century department stores served the needs of the middle and upper classes, the market halls were a place where people from the lower social classes could buy necessary food and, at the same time, use catering services or watch the performances of jugglers [6, p. 24–25]. Thus, they perfectly fit into the ideology of positivism and were a source of inspiration for artists. The French writer, Émile Zola, the main representative of naturalism, placed the action of his novel *Belly of Paris* in one of the most famous buildings of this type – the Central Halls in Paris. Describing them, he used colourful, technical language: “the halls appeared immeasurably like a modern machine, a steam machine, some kind of pot of digestion for the whole people, a giant metal belly, fixed with bolts, riveted, made of wood, glass and iron with the charm and power of a mechanical motorbike, working there with the deafening noise, the heat of fuel and the mad spinning of wheels” [10]. Goods halls provided access to fresh food, which was also taken care of by the veterinary services employed in them on a permanent basis. The separation of products of various types (e.g. meat and fish) was employed so that no odours could penetrate each other, and appropriate natural lighting and ventilation would additionally increase the comfort of shopping.

3. The aim of the article and selected research methods

In many publications, market halls are presented in the context of other commercial facilities developed in the 19th century, such as arcades and department stores. Researchers pay attention not only to innovations that were introduced in the context of sanitary facilities but above all, to the structural solutions used in them.

The aim of this article is to discuss the problems of the Central Market Hall in Budapest and to present its architectural solutions against the backdrop of selected nineteenth-century buildings with the same function elsewhere in Europe.

4. Selected examples of nineteenth-century market halls in Europe – functional, spatial and material solutions

The first large-scale market hall was St. John's Market in Liverpool, Great Britain, designed by John Foster in 1822. The roof structure was still wooden, but was supported by rows of cast-iron columns. Over the next few years, further objects for this function appeared in Brighton (1830), Aberdeen (1842) and Newcastle (1835). In France, an important market hall created entirely as a cast iron construction was Marché de la Madeleine [6, p. 127], which was completed in 1938.

A breakthrough for technological solutions, but also for functional and spatial commercial buildings was the construction of Crystal Palace, which was completed in 1851. This magnificent exhibition facility, designed by Joseph Paxton for the World Exhibition in Hyde Park London, was an excellent example of the use of prefabricated iron construction elements, which significantly affected the time of its implementation and the introduction of glazing in large areas. Crystal Palace could today be called a huge showroom, which perfectly fuelled the desire for the products displayed within and was an inexhaustible source of inspiration. Within a few years of its completion (in 1857), the Kirkgate Market Hall in Leeds was created (designed by C. Tilney and J. Paxton) [6, p. 128], which was inspired by Crystal Palace.

Undoubtedly, one of the most significant market halls is the example of the previously mentioned Central Halls in Paris (Figs. 1 & 2), the construction history of which dates back to 1842, when the first preparations for their implementation began. A year later, Victor Baltard presented the initial project in which he set up a brick market building [3]. After a loud public debate and further modifications to the project, the construction of the first pavilion began in 1851 and two years later, it was put into use. Due to the poor ventilation system and insufficient interior lighting, the construction of new pavilions was interrupted. Napoleon III was supposed to want iron halls like “big, iron umbrellas”. In 1853, forty-two architects submitted their proposals, the most interesting of which were by Hector Horeau, Eugene Flachet and Alfred Armand [9]. Finally, due to the intercession of the Prefect of the Seine Department, Georges Hausmann, the project was once again entrusted to Baltard. The Central Halls consisted of ten pavilions connected by roofed passages. Under the building, there was a system of cellars with warehouses, cold stores and sorting rooms. Each pavilion had the form of a rectangle placed on pillars and raised by a skylight above the roof, inserted into a larger rectangle. The construction framework itself was formed entirely from iron, and stone and brick filled the walls up to a height of 5 meters. Above, openwork structures in the form of arcades with a segmental arc filled with glass blinds were used [6, p. 131].

The Parisian Central Halls served as an architectural model not only in France but also abroad, mainly in warm climates, where the solution of the upper parts of the building as filled with blinds worked perfectly. As examples, it is worth mentioning Mercato Centrale in Florence, Mercado La Cebada in Madrid, and Mercado de San Antonio in Barcelona here. In regions with colder climates, slightly different architectural solutions were used to protect against heat loss in winter. In Germany, solutions were based on the construction of solid brick perimeter walls with a roof supported by rows of iron supports forming internal aisles.

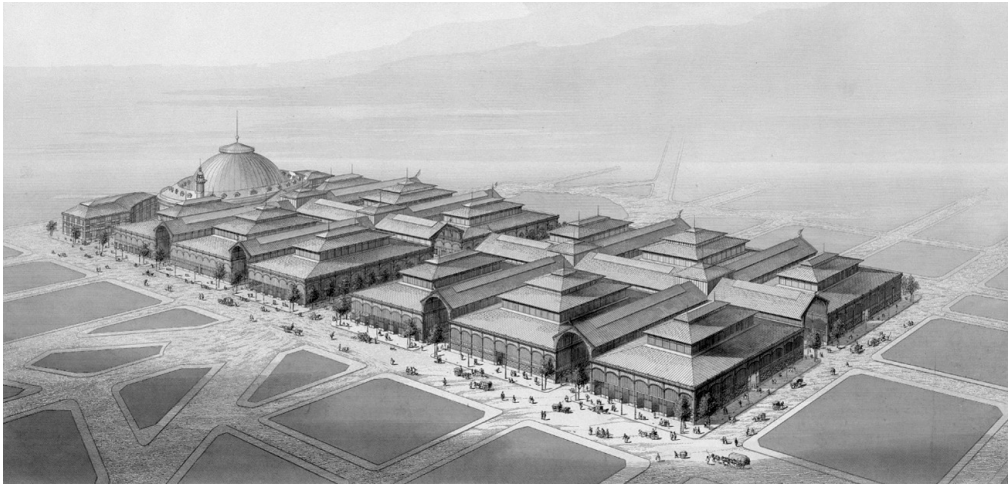


Fig. 1. Halles de Paris, 1863 (source: [15])

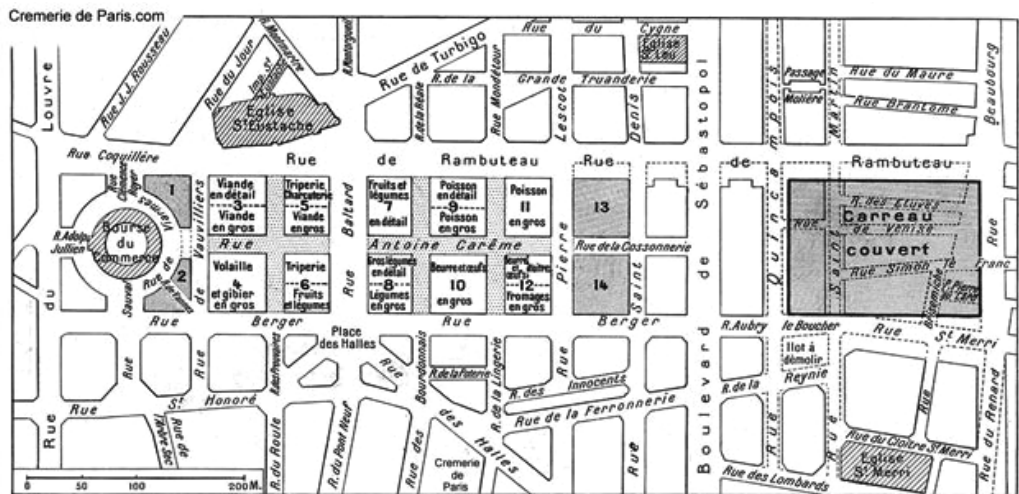


Fig. 2. Halles de Paris – site plan, 1863 (source: [16])

Their spacing and quantity depended on the planned span. Administration buildings were added to the main body along the shorter sides, and the walls were divided by a rhythmical arrangement of window openings [6, p. 134–136].

In Berlin, the system of exhibition halls was introduced at the initiative of the city, which wanted to provide residents with comfortable access to fresh products and food in hygienic conditions of sale. By 1900, a total of fourteen such structures were built, most of which were built on the basis of the plans of the city architect, Hermann Blankenstein. The designer even made a study tour around European countries to learn about the solutions applied in

other countries. The first city market hall was built in 1883–1886 in cooperation with August Lindemann at Kaiser-Wilhelm Strasse near Alexanderplatz (Figs. 3 & 4). The construction object was connected to the viaduct of the railway crossing, which not only ensured its excellent communication but also enabled the delivery of goods directly from railway platforms connected to the hall floor [11]. Cooling warehouses were located in the basement, and in the arcades of the railway viaduct, there were stores and warehouses, e.g. sales of live fish, which allowed keeping the hall itself clean [12]. In 1893, the extension of the Central Market Hall on the other side of Kaiser-Wilhelm Strasse was completed and it was called Central-Markthalle Ia or Central Markthalle II. The elevations were covered with a colourful brick cladding, creating patterns. They were designed as a system of repetitive spans covered with lisens, on which terracotta, bas-relief plates with decorations were placed in the floor level. In the lower part of the building, there are two windows topped with a segmental arch in each repetitive span. Above the arches there was an inter-story cornice, and then a large window with a full arch shape. The corners of the building were clearly distinguished from each other by octagonal towers covered with domes with triforms in each of the walls, under which a decorative cornice was placed, referring to the crowning cornice running around the whole building. On the sides of the towers, there were full plasticity and allegorical sculptures by Eduard Luerksen presenting trade in meat, poultry, game and vegetables [6, p. 137].

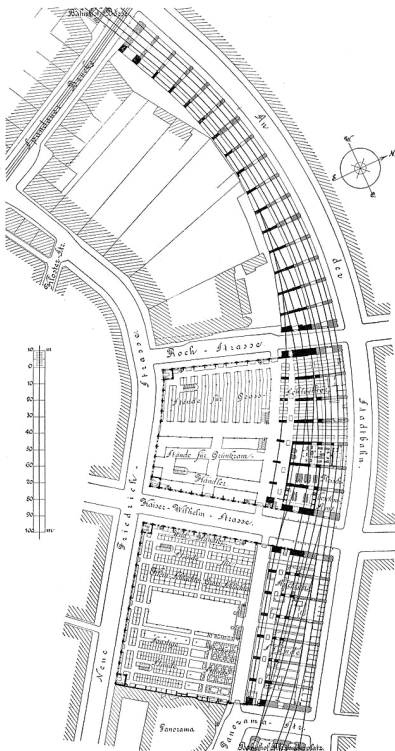


Fig. 3. Central Market Hall in Berlin – site plan, 1896 (source: [17])



Fig. 4. Central Market Hall in Berlin, 1896 (source: [18])

The architecture of the subsequent Berlin market halls by Blankenstein was subordinated to the character of the district in which they were created, and the spatial solutions were dependent upon the shape of the plot. Some of these, such as the II, III, IV, VI and IX halls, complemented the frontage; thus, the design included only the front elevation with the main entrance. As was the case with hall number one, the facades were finished with clinker bricks and decorated with yellow and red terracotta decorations, bas-relief medallions and friezes. The free-standing halls were designed in the basilica layout. An interesting example is the existing Markthalle X at Arminiusplatz, where both the nave and the side elements of the building were covered with rows of transversely set gabled roofs creating repetitive spans filled with significant glazing [2]. Above the brick section, a delicate, openwork structure based on an iron construction emerged, serving as a lightening for the sales interiors. In the front elevation, arcades have been introduced, leading to separate stores on the ground floor (Fig. 5).

By the beginning of the 20th century, exhibition halls had been built in 21 German cities, usually using a basilica layout based on a schematic diagram of a circumferential brick construction with an iron roof structure. An interesting and memorable project was executed for the central hall in Leipzig (Figs. 6 & 7). The building was built in 1889–1891 according to

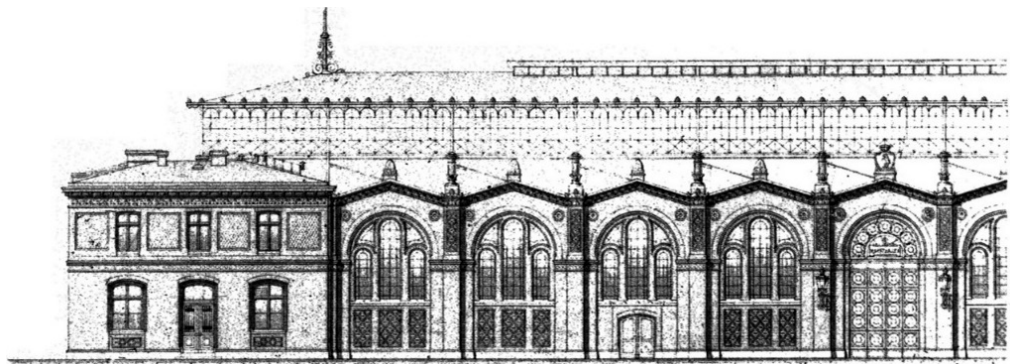


Fig. 5. Market Hall X in Berlin (source: [19])

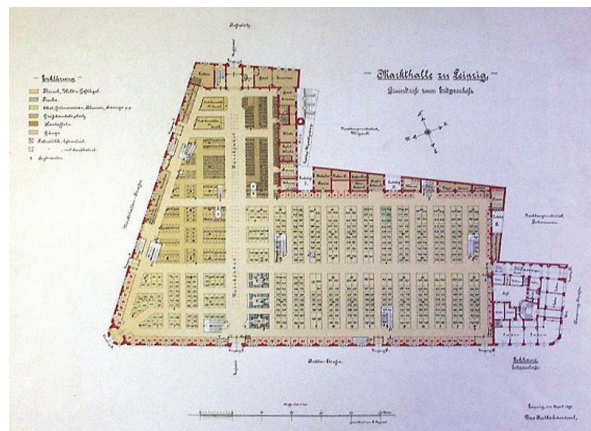


Fig. 6. Central Market Hall in Leipzig – ground floor plan (source: [20])



Fig. 7. Central Market Hall in Leipzig from Rossplatz, 1900 (source: [21])

Hugo Licht's plans on an irregular, corner plot. Its total area was 7500 m². On the ground floor, there was a restaurant, café, atrium, administrative rooms, 600 stands (another 160 in the gallery), a vet's office and a mushroom control station. It sold meat, fish, potatoes, vegetables, canned food, dairy and bakery products, as well as wood products, wicker, pots and barrels. In the basement, there were cold stores which were at the disposal of the traders. The facades of the Leipzig hall were made of yellow brick on a basalt pedestal. Their characteristic feature was a repetitive arrangement of triangular gables set by gabled roofs. Each of the spans had large window openings crowned with an arch. In the south-western corner, there was a thirty-four-metre-high clock tower, which makes reference to the Italian town hall buildings; it contained a water tank for operating six hydraulic cranes [1].

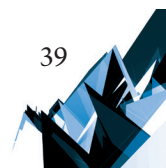
5. Market hall in Budapest – construction, functional and spatial arrangement and material solutions

The brick, three-naval market hall with a partially glazed roof was a popular architectural solution in central-eastern and northern Europe (e. g. Wanha Kauppahalli in Helsinki and Östermalm in Stockholm) [6, p. 139]. A commercial building based on this scheme was also created in Budapest. Formally, the city itself was quite “young” at the time, although it had had a turbulent and long history. It was established in 1873 as a result of the merger of three cities: Buda, Óbuda and Pest [14]. Already in the 1860s, there were voices in Pest about the need to build a market hall, which would enable greater control over the food sold as well as the introduction of regulations regarding retail and wholesale practices. Due to the constantly deteriorating supply conditions in foodstuffs, a plan for the entire city was developed in 1879. General Assembly Resolution No. 852 of 30 December enabled the establishment of a Food Committee, whose task was to prepare for the creation of a market hall. On 28 October 1885, the motion of committee member Lajos Nyiri to locate a hall in the 9th district on a plot between Várház Boulevard and the Pipa, Csillag and Sóház Streets was accepted. At that

time, the plot was owned by the State Treasury, which again suspended the construction plans for a few years. Due to the steadily deteriorating state of food supplies for Budapest residents and the growing number of inhabitants (until 1900 the city was larger than Rome, Naples, Madrid and Amsterdam), the need to build a market hall became increasingly urgent. Finally, after the resolution of 1891, Prime Minister Kálmán Tisza renounced the plot of land planned for the investment of the hall in favour of another location at Alkotmány Street [13].

On 25 August 1892, a competition for the design of the Central Hall of Budapest was announced, which was to enable the proposal of a modern, fast and economical building to be separated. It was assumed that the pavilions for the sale of meat would be closed, and that in the gallery zone, there would be trading in baskets and flowers. The competition requirements also required the construction to be iron and the external façade to be brick. The final result of the competition took place on 5 December 1892. Nine works were submitted and the assessment focused on the proposed spatial and urban layout, transport services, accessibility to the Danube, equipment and lighting. The jury selected three winners who were awarded prizes of \$1,000: P. Escande, J. Gourmez from Paris (15 votes in favour), S. Pécs from Budapest (14 votes in favour), Alvin Anger, P. Högner and P. Preil from Leipzig (15 votes in favour). Finally, on January 11, 1893, it was decided to entrust the design of the market hall to the Hungarian architect, Samu Pecz, who presented his plans less than a month later. He assumed that the floor would be arranged with a slope of 110 cm to connect the building with the surrounding streets without any difference in levels. He also introduced changes that included an innovative basement solution, which resulted in an increase in planned costs of up to 2,200,000 forints, which was not agreed. Disputes lasted over six months and the city's demands for further modifications resulted in a further increase in financial outlay. A chance for agreement appeared in November 1893, when award-winning French architects put forward their counterproposition in which they pledged to build and equip the entire building for around 1,650,000 forints in 18 months. The competition committee met on 30 December 1893 and during a meeting in which the mayor also participated, it was decided that Samu Pecz, together with the architectural company Escande and Gourmez, would present new proposals so that the most advantageous and economical option could be chosen. Finally, on 21 February 1894, during the session of the General Assembly, it was decided to implement the project by Samu Pecz [4, p. 8–22].

Earthworks began in June 1894, which allowed the completion of foundations and cellar walls by the end of the year. In the winter, works on the basement's iron structures and preparations for brickwork were completed. In the spring of 1895, the cellar ceiling was completed and stone plinths were built. In the summer and autumn, the walls of the hall were erected, the iron construction was completed, the installation of stone elements in the walls commenced and the windows were installed. In the spring of 1896, painting and carpentry work began. Several days before the completion of the whole investment on 30 July, a fire broke out in the hall, which caused considerable damage. Sixty metres of the roof of the main nave burned down and the losses were estimated at about 50-60 thousand forints. Samu Pecz undertook to complete the repair of the damage by October 1896. In order to improve safety, the construction of the facility had to be strengthened. The roof of the hall was divided into



three independent sections, the number of hydrants, roof manholes and climbing ladders was increased. The official opening of the exhibition hall took place on 15 February 1887 at 20.00. The final cost of the construction was 1,900,000 forints, including a tunnel, equipment for the river banks and a steam engine [4, p. 26–28].

The building was based on a longitudinal plan of 20.55 m, referring to the design of the hall in Leipzig [5]. It was connected to the railway siding and the Danube riverbank (Fig. 8). The interior was divided into two parts by a main road leading to wagons (Fig. 9). The side spans were covered with separate roofs with transversely aligned ridges, forming a rhythmic, “toothed” elevation system. Triple windows were placed in each triangular gable, crowned with a full arch, which indicated the inspiration of the Blankenstein and Licht halls. The impressive front façade was symmetrically captured by two quadrilateral towers. Its central part was occupied by a triangular wide risalit topped with a decorative entrance portal with rich sculptural decoration. Above it spread huge windows finished with a sharp arch inscribed into precisely planned brick decorations. The elevations were given a neo-Gothic costume and their ceramic detail was carefully worked out, supplemented with stone corners and numerous sculptural forms. The steep roofs are covered with colourful green-yellow-orange tiles produced at the Vilmos Zsolnay plant, which is famous throughout Europe (Figs. 10 & 11).

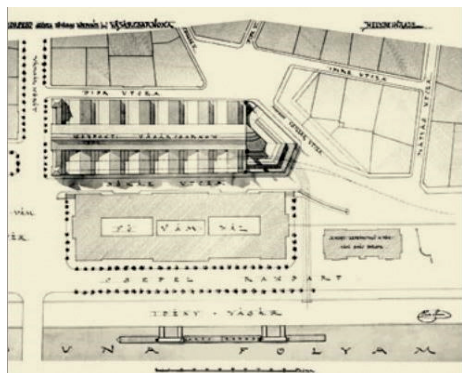


Fig. 8. Central Market Hall in Budapest – site plan (source: [22])

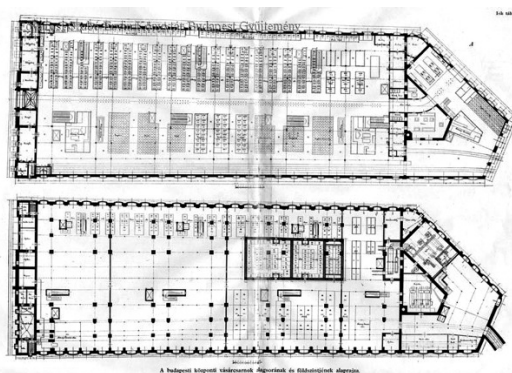


Fig. 9. Plans of Central Market Hall in Budapest (source: [23])

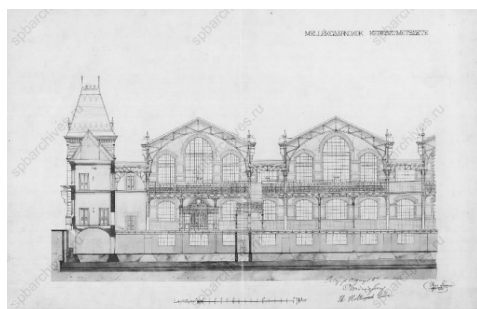


Fig. 10. Section of Central Market Hall in Budapest (source: [24])

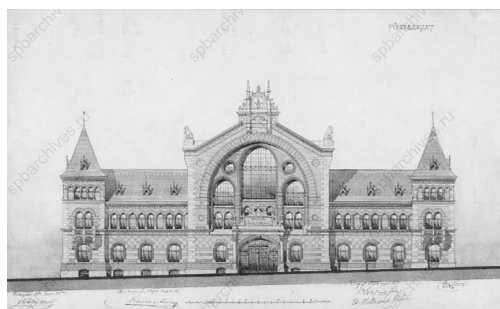


Fig. 11. The front elevation of Central Market Hall in Budapest (source: [24])

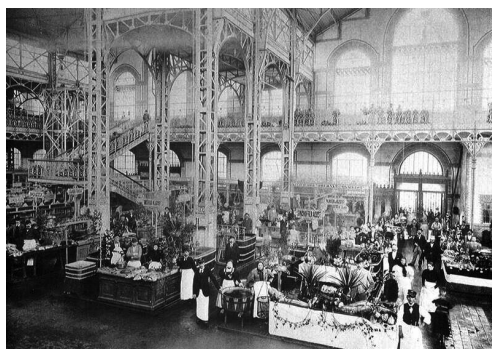


Fig. 12. Interior of Central Market Hall in Budapest (source: [25])



Fig. 13. Interior of Central Market Hall in Budapest (source: [26])

Inside the space on the east side was handed over to retailers, and the wholesalers' stands were located on the west side. Meat was sold in closed pavilions from the Pipa street side and on their opposite side on stand-alone stands separated by a wire mesh. Between the meat stalls and the central route of the wagons along the entire length of the building, there were sellers of vegetables, fruit, cheese and butter. The sale of fish from oak tanks was located at the other end of the retailers' area. The back of the building was closed by a one-storey poultry hall. A gallery ran around the high building, which was lead by seven staircases of iron construction with oak steps (Figs. 12 & 13). On the galleries and two bridges there were a total of 768 retailers' stands with an area of 2 m² each. Three 500 kg and five 1,000 kg electric lifts were installed in the building, as well as a public teleinformation station. Administration rooms were located in the front zone of the first floor. In order to maintain order in the exhibition hall, regulations were drawn up in 1896, which specified the system of sales and service of goods. One of the rules stated that the traders could rent more than one place in the same room, provided that the rooms were located next to each other and there was no other willing tenant who did not yet have a stand [4, p. 32–40].

Budapest's Central Market Hall was significantly damaged during World War II, when the poultry hall was completely destroyed. During the reconstruction, it was possible to use materials originally prepared for the construction of the hall, which were kept in the basement, including effective ceramic fittings. In 1977, the building was entered into the register of



Fig. 14. Central Market Hall in Budapest (photo by: Katarzyna Janicka-Świerguła)



Fig. 15. Central Market Hall in Budapest (photo by: Katarzyna Janicka-Świerguła)



Fig. 16. Central Market Hall in Budapest
(photo by: Katarzyna Janicka-Świergula)

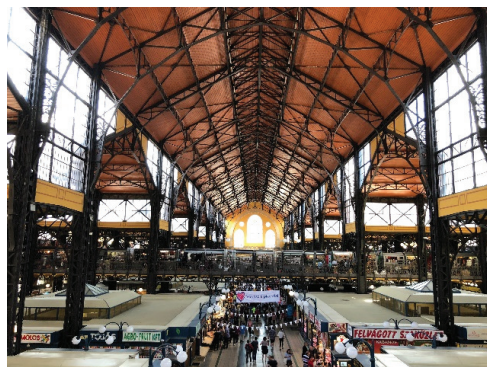


Fig. 17. Central Market Hall in Budapest
(photo by: Katarzyna Janicka-Świergula)

monuments. Over the years, the iron structure became increasingly worn out, so in 1991, it was decided to close the building and subject it to general renovation. The biggest challenge was to replace the ceramic fittings, which Zsolnay eventually undertook to supply. The works were awarded the FIABCI Prix d'Excellence [4, p. 48–52] (Figs. 14–17).

In Budapest, apart from the Central Market Hall, regional market halls were also created, which were of a decidedly smaller scale and architectural grandeur.

6. Summary

The analysis of the Central Market Hall in Budapest conducted in this article shows that its design was based on experience resulting from the construction of other facilities performing the same function elsewhere in Europe. Particularly clear are the references to German halls, in which the perimeter stone walls were used and the roofs were supported by a much lighter arrangement of iron supports. As in the Leipzig hall, a system of rhythmic, triangular gables and repetitive glazing was used. Wall decoration, similar to the solutions found in Berlin, for example, was comprised of geometric arrangements of multi-coloured bricks. It should also be noted that a very important factor determining the location of the market hall was linking it with the nearby railway siding and the Danube port front to ensure the comfortable supply of goods

As mentioned earlier, many European cities at the turn of the 19th and 20th centuries could be boastful of their market halls. Their spatial and functional scheme was usually based on similar principles, and similar finishing materials were used. Aside from Warsaw, the construction of trade market halls was not impressive in the case of Polish cities, which does not change the fact that in the Mirowskie Halls we can also find clear influences of generally accepted European patterns. It is satisfactory that some of these construction objects which survived the war are the subject of proper conservation care, which will enable future generations to get to know their undeniable charm.

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