



BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
FACULTY OF ARCHITECTURE
CSONKA PÁL DOCTORAL SCHOOL

Thesis of
Doctoral (PhD) Dissertation

**Theatre architecture in Hungary -
Architectural impacts, traditions and space shaping from the 18th century up to
the appearance of the principles of modern theatre architecture**

Anna Józsa
Architect (MSc)

Supervisor:
Dr. János Krähling, associate professor

Budapest University of Technology and Economics, Faculty of Architecture
Department of History of Architecture and Monuments
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1. Subject of the Research

Theatre can look back to hundreds of years of tradition, and has given rise to exciting questions throughout the ages due to its complexity and technology. The changes of the given conditions, tastes, as well as social and professional demands have brought up newer and newer problems and issues to which the architect of the age always tried to find adequate answers. The development of different architectural styles and techniques, including stage technology, the appearance of cast iron and electricity have all significantly influenced theatre architecture.

This dissertation embraces the beginning and development process of Hungarian theatre architecture, the era from the 18th century until the beginning of the 20th century. This was the time when college stages were functioning, and when the private theatres of the nobility, and the so-called public theatres built for the general public appeared, when theatrical art was established, and the first independent theatre buildings were constructed. The different status and parallel operation of theatrical art in the Hungarian and German languages, the functioning of touring companies, the creation and continuous strengthening of national identity were typical of the age. In addition to the overall presentation of Hungarian theatres, the research also deals with the examination of European effects and solutions, and it has the aim to point out determining architectural archetypes, and to single out the architects whose way of thinking and works have had a genuine impact on Hungarian theatre buildings.

The investigated period came to its end at the beginning of the 20th century, when the transformation of the social order introduced some new aspirations, when the shape of historical theatres is abandoned and when theatres built for the broad masses, for the people gained some ground.

The doctoral research also cast a light at the level on which theatre architecture is processed, and at the extent and depth of our research activities up until now. When overviewing literature on theatre buildings it was realized that the documents found were mostly dealing with the social role of the theatre and the history of the theatre, and there were only few works on the history of architecture, the shaping of theatre spaces, their technical and structural arrangements, and even these few works only primarily revolved around a narrow partial topic.

2. Research objectives

The purpose of the dissertation was to collect the available architectural design documents of the period investigated, laying special emphasis on the possible identification and presentation of design items not yet known or analysed, and their possible allocation in the development trend of Hungarian theatres, as well as to catalogue the overviewed design works, providing in such a way an introduction and inter-comparison of Hungarian theatres from an architectural perspective in a complete manner not seen before.

Another aim of the research was to make a catalogued design collection from the identified ones and to analyse them from an architectural point of view: indicating their space shaping, the functional elements of the auditorium, the stage and the service spaces, recognising design methods following European analogues, and last but not least revealing special Hungarian architectural features and novelties. This study also serves as preparatory work to further cross-border research and to characterise 20th century theatres.

3. The sources and the method of the research

Sources

The primary sources of the doctoral dissertation were architectural designs and related documents to be mostly found in the architectural design collections of Hungarian archives, museums and libraries. The research work provided us with a picture of the extent and state of available Hungarian design materials, documentations, descriptions and presentations. We have found that unfortunately theatre designs have not been preserved in a large number, a possible reason being that in the case of theatres with a simpler arrangement, either no design at all, or just sketched ones had been made. Although a higher number of significant theatre designs and major works of popular architects have been preserved, they are scattered and can be found in different archives.

In addition to known buildings, we have come across several designs not identified yet, most of which, however, could be identified in the processing work. Unfortunately it is not typical to have building designs in theatre archives. There are just a couple of exceptions, for instance the Hungarian State Opera, where there are even several ground plan variants to be found on the building.

The examination of architectural text books and sketchbooks, and the comparison of the included sketch designs with completed theatre buildings and preserved theatre designs constituted another important part of the research. These works had an important role in the dissemination of European culture and the way of thinking of architecture schools, technical solutions and styles of the day.

In contrast to Hungarian literature, there are a higher number of works analysing theatres from an architectural point of view in foreign architectural literature, mostly from Italian, German, French and English speaking territories. This fact shows that there was a rather strong demand for theatre culture and its architectural presentation in certain cultural areas, which typically gave rise to revolutionary theatre buildings in the same areas. The literature written in the German language was dominant during the research period; complemented by architectural sketchbooks and treatises bought during journeys and being important parts of the libraries of lords and nobles, coming from Italian and French cultural areas in addition to works written in German.

Finally, it needs to be mentioned that I also gained information from the Internet, which of course today offers a huge array of information and documentation.

Method

The essential part of the documents processed in the dissertation comprised primarily the information and data gained from the research and collection work at Hungarian and foreign archives and libraries, the documentation of site-visits paid to buildings, and the data collected from theatre archives.

The theatre designs found were the source of the collection of theatre architectural designs comprising 46 items underlying the present dissertation. This collection is attached in the form of an annex. Almost two third of this collection are original architectural designs: typically ground plans, sections and façade drawings; there are only few examples for the total design material preserved. Data sheets with the found imagery attached for analyses based on the dissertation criteria were made on each theatre. The functional analysis of theatres is to be highlighted, which enabled an even deeper comparative analysis and a clear-cut presentation of the results.

Unfortunately a number of the presented theatres do not have preserved design on their buildings (they have been lost or destroyed) therefore their presentations in the available literature are also an important part of the image material of the dissertation.

4. New findings of the research - theses

Thesis No. 1: Typology [2, 3, 6, 11]

In the dissertation, the grouping by the customer of the construction applied before for the typological classification of Hungarian theatre buildings has been further divided to sub-groups, moreover, even extended by a novel individual typology offering the classification according to the architectural shaping. Within this, building-inserted theatres, new and independent theatre buildings and co-functional theatre buildings are defined.

We can differentiate between private and public theatres from the customer's perspective. The predecessors are the college stages ordered to be built by Hungarian Order of Jesuits and other orders as well as protestant colleges.

Aristocratic court theatres are outstanding examples of 18-19th century private theatres. The maintaining aristocracy established private theatres for their own entertainment even in their palaces in town.

Public theatres were gradually established parallel to the development of the official theatrical profession and the appearance of the bourgeoisie in towns, which facilitated the introduction of the theatre in the form of independent public buildings in the 19th century. The aristocracy was still present in this process at the beginning of the century either as the direct customer of architecture or as the lessee of boxes supporting the maintenance of the theatre. Later public theatres appear financed by the strengthening bourgeoisie and built from public donations.

From the perspective of architectural arrangement we can differentiate between theatres inserted into existing buildings, typical to late baroque and the age of enlightenment, new independent theatre buildings and co-functional theatres, serving different purposes, typical of the whole investigated period.

The so-called summer theatre or arena referring to the shape of this type of theatre, a characteristic sub-type of public theatres was also present throughout this period.

Thesis No. 2: European impacts and adaptation [1, 5]

Sketches and adaptations play an important role due to the complicated technology of the theatre and the complexity of its genre. The sketches recognized during the research work underpin this approach. We have managed to identify specific foreign theatre buildings and sub-types which can also be clearly found in Hungarian theatre architecture, and had a direct essential influence on the architectural shaping of theatres.

This dissertation uses specific examples to elucidate the manifestations of the impact of European theatre architecture on the Hungarian theatre architecture. We can see the conscious application and adaptation of the theatre architectural solutions of the Italian and the derived French and German speaking areas, constituting a common source for European theatres, while the influence of British theatre architecture can also be traced back. The identified foreign theatres are as follows:

Globe, London 1599

Andrea Pozzo's sketch design (Perspectiva Pictorum et Architectorum, 1709)

Leonhard Christoph Sturm's sketch design (Kupffer zur Goldmann-Sturmischen Baukunst, 1722)

Théâtre de l'Odéon (Paris 1782, Marie-Joseph Peyre and Charles De Wailly)

Königlichen Hoftheater (Munich 1818, Karl von Fischer)

Altes Hoftheater (Dresden 1841, Gottfried Semper)

Circo-teatro, circus, cirque, 19th century

Richard Wagner Festspielhaus (Munich 1864-67, Gottfried Semper)

Festspielhaus (Bayreuth 1876, Richard Wagner, Otto Brückwald)

In the 18th century Hungary, the adaptation of the ground plans and stage technology of the Italian and French court theatres of the age can be clearly recognized in the architectural arrangement of fashionable aristocratic private theatres and court theatres. However, the application of the structural principles and functional arrangements of the model theatres presented in the treatises can also be found in them. In the first half of the 19th century the Pesti Magyar Színház (the Hungarian Theatre of Pest) designed by Mátyás Zitterbarth jr. was built with the sponsorship of the Hungarian nobility, among them with István Széchenyi's significant donation in 1837, during the reform age.

Its ground plan adapted the scheme of the Théâtre de l'Odéon, one of the outstanding theatre types of French theatre architecture, fitted into the site of Pest.

There are also several examples for the type of the Königlichen Hoftheater in Hungarian theatre architecture. Firstly, it can be found in the Esterházy archives indicated as the Esterházy Opera House, secondly, the Ybl heritage includes the ground plan of a theatre in Munich, and this same type is also reflected in the restructuring design of Ybl's German Theatre in Pest. The same solution is shown also in the ground plan design of Franz Lössl's Sopron Theatre in 1841.

Semper's first Dresden Theatre is an often repeated type of historic theatres. Ybl often uses this type, first in his proposal provided for the Pest theatre, where he proposes that Semper's design shall be used without any modifications, and later in his forth design variant made for the Debrecen theatre.

The formal origin of summer theatres can be associated with the Globe theatre type of the Elizabethan age, but they are also similar to the types of the Italian circo-teatro and the French cirque.

The Budapest People's Opera House (today's Erkel Theatre) followed the essential ideas of the Festspielhaus of Munich and Bayreuth, and is a good example of the emerging type of people's theatres.

Thesis No. 3. Resonance chamber [1, 5]

Resonance chamber, an element adapted from European theatre architecture, as an important part of the acoustic systems of theatres appeared in Hungary in the middle of the 19th century. We highlighted the importance of this structure in our research work, given the fact that Hungarian theatre architectural research has not yet paid the necessary attention to it.

A usually reversed arched space can be seen under the orchestra pit in the theatres built in Hungarian towns in the 18-19th centuries, which was probably used to amplify the resonance of the deep sounds of the music played by the orchestra. Hungarian architects also adapted this acoustic element, the so-called resonance chamber from European theatre architecture.

Its first appearance in Europe can be put at around the end of the 17th century, and it remained in use up until the end of the 19th century. As far as its shape is concerned, in addition to its semi-circular arch it also has some hexagonal cross-sections. If this chamber is properly structured, it reverberated and amplified musical sounds, and as an air chamber it also facilitated the resonance of the wooden floor.

Its first example can be seen in the designs of the German Theatre in Pest submitted for its transformation and reconstruction tender, but Ferdinand Kirchner's design of the Debrecen theatre in 1855, and Miklós Ybl's second and third design variants made for the Debrecen theatre also feature this acoustic solution. Resonance chambers can be found even in simple summer theatres of a wooden structure, Frigyes Feszl's Pest Summer Theatre being a good example.

Thesis No. 4: Functional enrichment – co-functional theatres [1, 2, 3]

We can reveal the enrichment of theatre building types since the 18th century. It was frequent in Hungary to build theatres together with other associated functions – redoute, coffee-shops, shops and even town halls later. These functions did not influence each other in terms of their architectural forming, however, created a distinct and complex building type.

The theatres of the age were often built in the same building with other functions – mostly due to financial considerations. These block shape edifices also including theatres were already built at the points of expanding towns as their constituting parts, while the theatres operating in already existing buildings were naturally in adjustment with the old urban fabric of the town.

The type of building combining the theatre and the entertainment centre was often called by the name redoute. In Hungary there are several examples for this co-functioning with its archetype probably coming from the German culture although the phrase itself comes from French. Typical co-functioning examples in Hungarian architecture are as follows:

Theatre and redoute: Bratislava and Kosice Town Theatre, Pest German Theatre and Redoute

Theatre and casino: Miskolc Theatre

Theatre and coffee-shop, shops: Székesfehérvár Theatre, Debrecen theatre designs

Theatre and block of flats: Hungarian Theatre of Pest, Debrecen theatre designs

Thesis No. 5: Summer theatres [10, 11]

Summer theatres, arenas are typical buildings of 19th century Hungary. We have demonstrated through a comparative analysis that the idea of the ancient arenas built for the people comes back in their geometric arrangement as a central form thus carrying the conception programme of people's theatres. They were buildings with wooden structures suitable for their purpose, which were in correspondence with their shape and temporary character.

The geometric arrangement and ideas of Elizabethan theatres resembling the yards of medieval inns can be discovered in summer theatres, their contemporary analogues being the Italian circo-teatro, the British circus and the French cirque type buildings. It can also be noted that the architectural arrangement of summer theatres reflect Semper's Bekleidungstheorie, according to which skin is created through the decoration of the skeleton.

These theatres staging popular theatrical genres were usually built as stand-alone buildings in parks. The former Summer Theatre in Buda with a polygonal ground plan, standing in the Horváth-gardens is an outstanding Hungarian example, but there were other simpler theatres as well with mostly hexagonal ground plan. In order to bridge over the large spans, wood-steel and cast iron combined roof structures were applied.

Frigyes Feszl's Summer Theatre in Pest on the other side of the Danube was built in the first public park of the 19th century Europe, in the Southern corner of Városliget (the Town Park). In addition to those in the capital city of Hungary, we also came across several documents on countryside summer theatres.

Thesis No. 6: Appearance of the principles of modern theatre architecture [7, 8, 9]

Through the overall functional analyses of several Hungarian theatres carried out in a chronological order in the period from the second half of the 18th century up to the beginning of the 20th century, we presented the development process that finally brought about the appearance of the principles of modern theatre architecture, first represented by the building of the People's Opera.

The arrangement of the auditorium with rows of boxes, noticeable throughout almost the whole period failed to fully serve the newly upcoming needs, and could not ensure theatre experience for masses of people: to which problem the return to the idea and auditorium shape of ancient theatres provided the solution.

At the beginning of modern theatre architecture, Wagner's principles gained ground and had their influence also in our country. For Wagner the most important elements of the theatre were the amphitheatre type auditorium and the orchestra pit, reaching back to the principles of ancient popular theatres. The theatre for Wagner was a mission, where works of art were created in the spirit of Gesamtkunstwerk, which he intended to give to broad masses of people free of charge. He wanted to have theatres built on the unity of visibility, acoustics and sensibility. Wagner did not only consider the scene as decoration, but as a connection between decoration, illusion and the moving structure as part of the scene. These thoughts identical with Semper's can all be seen represented in the design of the Festspielhaus in Munich and the theatre built in Bayreuth in 1876.

The strivings for equal and uniform convenience recognisable in the theatre designs made by atelier Fellner and Helmer already predict the idea of people's theatres. These, however, are still strongly bound by the atmosphere of historic theatres both in their exterior and interior arrangements.

The arrangement of the People's Opera, which was the first to carry modern theatre architectural principles, follows the trapezoidal auditorium shape with first-tier boxes, and a large rear gallery characteristic of this type of building.

Due to its nature as a people's theatre, the level and the size of the auditorium is emergent, but the audience, operating and service spaces are narrow.

Thesis No. 7: The geometry of theatre buildings – searching for the intellectual and geometric centre [1, 4]

Through the ground plan analysis of Hungarian theatres we managed to demonstrate that the geometrical centre of theatres falls in the interface zone of the auditorium and the stage space. This feature can be recognized as a tendency applicable to the overviewed European theatres and Hungarian designs.

The architectural design can be traced back to ancient thinking, and can be also found in the theatre architecture of the investigated period. We can notice the search for and enforcement of geometric shapes and regularities in the planning and design of the theatre space of the building and of the whole building contour.

Theatre affects the senses, and this is what is served by the arrangement of theatrical space in the interrelated system of vision and hearing. Search for and architectural presentation of symmetry and harmony are typical of 19th century theatre architecture. Visual symmetry dominates the asymmetrical functional and spatial arrangement of the theatre, which is manifested in the unity and external mass reflecting the interior spatial arrangement, stage-setting perspective and musical harmony.

The shaping of interior spaces in the theatre architecture of this century is manifested in the space shaping in the line of the axis; the internal spaces of theatres follow the sequence order of preparation, enhancement and culmination of experience.

It is easy to recognize the architectural shaping intention placing the interface zone of the auditorium and the stage space (also including the orchestra pit) in the middle, which helped the architect to raise awareness – even if unintentionally – of the essence of the theatre, making the whole building human-centred.

Thesis No. 8: The auditorium and the stage – the unity of central and longitudinal spatial arrangement, its changes throughout the ages [1, 4]

We revealed a dynamic process in theatrical design, which goes from the ancient central arrangement through architectural changes to an axially arranged space, then turns back. Generalising this question, we can recognize the architectural reflection of social changes in all this.

The fundamental scheme of the theatre is the placement of two spatial units opposite to each other. From the very beginning, the first step of theatre formation has remained, namely when somebody stood up in front of other people who were than watching him, through which the space accommodating the audience, that is the auditorium, as well as the space of the play, that is the stage were formed. Looking at the stage space of any age, these two basic spaces can always be found, it is only their relation to each other that is modified, moves and changes dynamically throughout the ages.

The main steps in central and longitudinal spatial arrangement: the theatre culture and theatre space starting from the ancient centrally arranged theatres operated in a decreasing number of Renaissance theatres, when typically private theatres were established with a transitional mixed shaping until the middle of the 19th century. It was the time when the idea of people's theatres appeared, and was once again looking for central spatial arrangement. The controversy and shifted balance between central and longitudinal spaces have remained throughout the whole development.

5. Utilisation of findings

Findings are primarily utilised as journal and conference publications. Only few people have undertaken the architectural analysis of the design questions of theatre architecture, and even they have only dealt with partial sub-topics, like the development of theatre technology or the form of the stage.

The documents found and the designs unidentified so far have contributed to a better understanding of Hungarian theatre architecture, a more detailed presentation of the European situation, and to the enlargement of the database of Hungarian theatre architecture.

I hope that through the continuation and further completion of this research work the results can be summarised in a book, incorporating even some new topics. The new findings published in the dissertation can also be utilised in the architectural projects of theatre reconstructions where historic structures are to be preserved, hence this research work also facilitates the solution of monument protection issues related to this important type of public buildings.

6. Publications in relation to the theses

[1] Józsa, Anna: Die Theaterarchitektur von Miklós Ybl. *Acta Historiae Artium*, 55. 2014. 209-227. DOI: 10.1556/AHistA.55.2014.1.9

[2] Józsa, Anna: The beginnings of public theatre architecture in Hungary in the age of Enlightenment. *Pollack Periodica*. Pécs. 8. 2013. 109-122.
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[4] Józsa, Anna: Symmetry, asymmetry and harmony in European theatre architecture in the 19th century. *Symmetry: Art and Science. The Journal of the International Society for the Interdisciplinary Study of Symmetry*. 1-4. 2013. 1-5.

[5] Kóthay Zsófia - Papp Lilla - Józsa Anna: Debrecen színházépítésze – A színház épületére készült építészeti tervek bemutatása. *Architectura Hungariae*, 12. 2. 2013. 62-81.
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[10] Józsa Anna - Krähling János: Legyen a Horváth kertben Budán, szombaton este fél nyolc után – A Budai Nyári Szinkör. *Műemlékvédelem*. 54. 2. Budapest. 2010. 109-113.
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