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The Restoration of Viipuri Library, an International Pilot Project

Historical background

The municipal library of the City of Vyborg (in Finnish Viipuri) was designed by Alvar Aalto during the period 1927–1935. Construction work began in the middle of April 1934 and the library was inaugurated on October 13, 1935.

The library is one of the most important works of Aalto's pre-war output and together with the Paimio Sanatorium a cornerstone of his international fame. It is considered to be a masterpiece of the 20th century architectural heritage, an icon of Modern architecture. The library reflects Aalto's idea of architecture: "Radicalism is required to avoid superficial cosiness. Instead we have to pin down the problems whose solution will create the basis for a more sustainable architecture and values genuinely worthy for the day-to-day well-being of man." (Aalto 1930) Viipuri Library looks like a typical Functionalist building, but its white surfaces and cubist massing conceal within them the seeds of "new Aalto." The free form of the undulating wooden ceiling of the Lecture Hall points the way to his future organic architecture.

Aalto's architecture was always experimental, and it was especially so in the case of Viipuri Library: Here he used flat roofs penetrated by numerous skylights for the first time. Later this was characteristic of his architecture. Other avant-garde ideas involving heating and ventilation, steel columns and window and door frames, the undulating wooden ceiling of the Lecture Hall and many other novelties gave forms to the architecture of the library.

Post-war rebuilding

Karelia, together with the City of Vyborg, was ceded to the Soviet Union in 1944. The city was badly bombed during World War II, but the library did not suffer much. However, the building stood abandoned for ten years, was left open to the elements and lost its original inner and outer surfaces, fittings and furniture.

It was rebuilt in 1955–61 to again house the municipal library. The Soviet authorities decided that the building was to be restored to its former appearance, and the renovation began in 1955. The city asked the Minister of Culture in Moscow for copies of the original drawings and requested that some technical components, such as the round panes of glass for the skylights and air-conditioning equipment, be ordered from Finland. This was not possible, and the renovation was carried out on the basis of old photographs and fragments found in the building. The architects responsible for the work during the So-



Viipuri Library, arch. A. Aalto, 1927–35. View of the Lecture Hall during the restoration works in 2003

viet period were Petr Moisejevich Rozenblum, followed by Alexander Mikhailovich Shver (from 1957 onwards); both did their best to rebuild the library in those difficult times. Through his recollections Shver has helped to document the history of the building.

The proportions and materials used differ from the original. The eaves were raised by a height of two layers of brick. The height of the large bay window of the Lecture Hall was decreased by 20 cm because glass panes of the original size were not available in the Soviet Union.

The present restoration project

The present restoration of the library was started in 1991 as a joint project between Russian and Finnish restoration committees and has gained international interest. The Finnish Committee for the Restoration of Viipuri Library was founded in 1992. The committee prepares the plans necessary for the restoration and repairs and, together with its Russian counterparts, controls and guides the restoration. It is also responsible for channelling international and Finnish contributions to the project.

An international appeal for the repair of the library was launched in 1992. UIA, ICOMOS and DOCOMOMO, several associations of architects, architects' offices, architectural schools and about one thousand architects and other specialists signed the appeal. In 1995 the library was included in the Russian Federation's list of Objects of Historical and Cultural Heritage. The 88th Council Session of UIA recommended that the library be declared a UNESCO World Heritage Site. The World Monuments Watch included the Alvar Aalto Library on its list of 100 Most Endangered Sites for the years 2000–2003.

The City of Vyborg has financed a scientific documentation and an architectural and production design by Spetsproektrestavratsia/St. Petersburg. In 1998 the



Viipury Library, arch. A. Aalto, 1927–35. View of the Reading Hall during the restoration works in 2003



Viipury Library, arch. A. Aalto, 1927–35. View of the Interior in 2003

Ministry of Culture of the Russian Federation approved the restoration design, which aims at total refurbishment. The federal protection guarantees a theoretical and official framework for the project but in practice it is not necessarily successful. The federal financing causes problems.

The execution of the first sub-projects indicated that the Russian overall restoration design was insufficient and had to be adjusted in regard to technical solutions, selection of materials and defining of architectural details. In 2004 all the parties involved agreed that the Finnish Committee for the Restoration of Viipuri Library, members of which once worked in Aalto's office and have experience with the restoration of Aalto's buildings, will be the responsible planner, designer, supervisor and reporter for the project.

The Finnish Committee is supported by the Alvar Aalto Foundation. We have free access to the archives of original drawings, specifications and photographs from the 1930s, which provide good background information for this work.

During the years 1998–2001 the Finnish Committee received a grant from the Getty Foundation for research on the cast concrete structures, for restoration design of the Reading and Lending Hall roofs, for documentation and measured drawings of the entire building and for a training and education program. The Getty grant was an essential aid for forming a comprehensive restoration program for the building. The Russian contractor and the workers were trained to understand the qualitative demands of this project.

The restoration of Viipuri Library is a critical process and an interesting pilot project for the restoration and conservation of Modern architecture. The goal of the restoration is to regain the architectural values of the building, whilst meeting the municipal library's present needs in terms of function and safety. Management guidelines for World Heritage Sites are being taken into account in the restoration of the building and the criteria of authenticity are born in mind during the work. Original fragments such as metal doors and steel frames will be conserved. Some practical alterations from the 1956–61

Soviet repairs, such as the lobby arrangement, will remain.

Execution of the restoration

Since the library cannot be closed and it is not possible to secure at one time the large total budget for complete repair and restoration of the building, the restoration will be a long process consisting of sub-projects of various sizes, carried out in order of urgency. The total budget for the restoration is about 6.7 million euros. However, up till now we have succeeded in collecting about 1 million over the past 13 years. The restoration could be completed in six years if one million euros were available per year.

Several emergency repairs were carried out in 1992–94: the repair of the exterior wall of the basement; the reinforcement of concrete constructions in the floor above the basement; the renewal of some exterior drains; the cleaning of interior rainwater pipes.

In 1994–98 the Finnish Ministry of Environment financed the restoration of the great glass wall and the restoration of the small terrace of the Reading Hall as a pilot project for restoration of all the roof terraces.

The great glass wall is one of the main architectural features of the building. It symbolises the metamorphosis from Aalto's original classicist competition entry in 1927 to one of the most beautiful examples of the Functionalist period. The glass wall was repaired as a manifestation for the start of the restoration project.

The original steel frame was conserved, the corroded iron fittings and rotten wooden lists from the Soviet period were replaced, new brass hinges were produced in Estonia. The screw joints on the frames had been replaced by welding already in 1958–61, and this latter method was again used to join the frames. All the metal parts were rust protected and painted, and wooden parts were oiled. Action Viipuri Switzerland and the Finnish Ministry of the Environment sponsored the repair.

In 1998–1999 the former caretaker's apartment was restored as a studio for restoration design of the library. The undulating wooden ceiling of the Lecture Hall is one of

the most interesting architectural elements of the building. The original ceiling was probably built on site by carpenters who were specialised in constructing boats.

The original ceiling was destroyed after the war and rebuilt in 1958–61 on the basis of old photographs and profile fragments in the walls. However, the quality of wood and the detailing is poor.

In 1998 a 10 m² prototype of the undulating wooden ceiling of the Lecture Hall was installed to celebrate Aalto's centenary year. The prototype was a research object for investigation of the problems concerning the whole ceiling. The prototype was made by the carpentry department at Heinola Institute of Handicrafts and Applied Arts. However, the flush joints of the prototype were not able to sustain the varying humidity and temperature of the inner climate of the library. In autumn 2000 the original working models of the ceiling were found. The joints were tongued and grooved and the intention is to reconstruct the ceiling following these models.

In 1999–01 the roof of the Lecture Hall Wing was repaired. This was the first major roof repair to be undertaken.

During the Soviet renovation in 1955–61 the concrete screed and insulation were removed and replaced with a new synthetic insulation and bitumen layers, and the parapet was heightened by two brick courses. These later, deteriorated bitumen and insulation layers above the original bearing concrete slab have now been removed. The original inner rainwater pipes were cleaned and new acid-proof steel drains were installed. The slope of the original roof slab was improved and waterproof layers and 5 cm of expanded plastic insulation were added, followed by filter fabric and a frost-proof concrete screed cast. The original height of the parapet was restored and the eaves covered with copper sheeting.

The roofs of the Lending and Reading Halls were the first ones where Aalto used a large number of skylights as the main source of natural lighting for the interior. This later became one of the characteristics of his architecture. Altogether there are 58 skylights on the roofs. The original skylights, with a single 1,6 cm roughcast glass, were simple installations which were replaced with plastic domes in 1958–60. Additional domes were added in 1990.

The renovation of the roofs was carried out with a method similar to that used for the roof of the Lecture Hall Wing. The 2001–2004 restoration was also aimed at reconstructing the original form of the skylights. However, modern laminated glass was used instead of the original roughcast glass, and an additional pane of laminated glass was installed in the skylight drums to improve energy efficiency. To adjust the height of the skylights plywood ground rings have been added on top of the concrete drums.

The renovation of the roofs of the Lending and Reading Halls, the main entrance and the Lending Hall terrace were financed by the World Monuments Fund® Robert W. Wilson Challenge to Conserve Our Heritage.



*Viipury Library, arch. A. Aalto, 1927–35.
View of the Lecture Hall in 2003*

In 2000 the repair of the Children's Library entrance roof was completed, with financing by the Russian partner. The heating system of the Lecture Hall Wing was renewed by the Russian partner.

In 2001 the staircase of the Lending Hall was repaired. It originally consisted of prefabricated reinforced concrete elements installed as cantilevered beams as the brick wall was being built. The concrete had deteriorated, the reinforcement bars were rusted and the bearing capacity was gone. In the restoration, the carbonated concrete was removed, the reinforcement bars were sandblasted and corrosion protected, a few new reinforcement rods were added and new concrete was cast. It was possible to save one of the stair steps completely, and a few others were partly saved with only some conservation needed. The totally rusted original steel handrail of the staircase was replaced by a new one following the original model. The staircase restoration was financed by the Foundation for Swedish Culture in Finland.

The steel entrance doors, with the exception of the main doors, are originals from 1935, but the handles in brass and wood have disappeared. The doors were rusty and deteriorated and almost out of use. However, as originals they were conserved in as authentic a state as possible. Only some lower parts of the frame had to be renewed; some original hinges were preserved and conserved. The doors were conserved, the locks modernised and the handles reconstructed according to the original drawings, old photographs and a comparison with similar handles used in the Paimio Sanatorium. The restoration of the entrance doors to the Periodicals Room, the doors to the Children's

Library and the Lecture Hall bay window was organised by the Cultural Commission of the Leningrad Oblast during the years 2000–2005.

The entrance to the Children's Library was restored in 2004–2005. The inner and outer walls were rendered and whitewashed. The steel windows were restored, door repairs completed, and the entrance floors and toilet floors and walls were covered with ceramic tiles imported from Finland. The ground level around the entrance was lowered to the original height and stone slabs in front of the entrance were levelled.

On October 13, 2005, the 70th anniversary of the library, the entrance to the Children's Library was opened to symbolise that the library belongs to the future generations. The repair was financed by Helkama Forste and the City of Vyborg.

The restoration of the Periodicals Reading Room was the first large-scale interior project. The aim was to recover the original atmosphere, detailing and materials. The work started in 2004 and was financed by the Ministry of Culture of the Russian Federation and the Cultural Commission of the Leningrad Oblast, which also managed this project. The original intention was to complete the work by the end of the year 2004. All the parties involved agreed that the Finnish Committee for the Restoration of Viipuri Library is the responsible planner, designer and supervisor of the works.

The walls and ceiling were rendered and painted; the original steel windows were restored. A new door with original details and a birch plywood surface was imported from Finland. The lighting system with chrome-coated steel parts and round glass lamps was reconstructed and the floor was covered with rubber carpet from German Freudenberg.

The restoration of Modern architecture looks simple but is highly demanding in details. This was evident in the case of the Periodicals Reading Room. Our demands for accurate quality of work and contractors methods caused contradictions and delay. The work was not completed until the end of 2005.

The main target for this year is to restore the Lecture Hall. We have succeeded in getting supporters from several countries; the Viipuri Library Charity Trust in UK, Suomen Kone Ltd Oy Helkama, and Kuusakoski Ltd have joined this campaign. The undulating wooden ceiling and

the parquet floor will be financed with contributions from Sweden. The City of Vyborg has budgeted 1 million roubles for the Lecture Hall.

An international campaign for Aalto furniture for the Lecture Hall was organised in cooperation with ARTEK and Furniture Manufacturer Korhonen to celebrate the 70th anniversary of the library and ARTEK as well. This successful campaign will continue this year as well.

Conclusion

Vyborg is a poor border city far from Moscow, somewhere beyond St. Petersburg. From the perspective of Finland and other western countries it is an extremely interesting historical city with medieval origins and multicultural layers of architectural heritage, including a medieval castle, 16th century housing, a fortress, beautiful Baroque churches from the 18th century, 19th and 20th century housing and the Aalto Library, which is considered an icon of Modern architecture.

The restoration of the Aalto Library, or rather the process of its restoration, represents cultural cooperation across the borders.

Aalto created a completely new open library system, where people could wander around in the world of books and find knowledge and understanding for life. He researched human needs for light, silence and fresh air to ease reading and concentration. The architecture of the library symbolises transparency, openness and equality. The Aalto Library is a manifestation of all the best ideas of the Modern Movement.

Modern ideas pursued democracy, freedom and justice. The architects who developed the Modern Movement architecture in both socialist and capitalist countries wanted to build a better life for the ordinary man. The contemporary world looks unsafe; there is a nostalgic longing for past times, for romantic forms and decorations. This leads to a superficial and commercialized way of building. More than ever we need radicalism to create more sustainable architecture for man's day-to-day well-being. The best examples of Modern architecture can show the way and thus deserve to be researched, carefully preserved and included among mankind's most valuable heritage.



Viipuri Library, 1927–35, arch. A. Aalto. Rooflights before and after the restoration in 2003