

Evolution of public library architecture as based on the work of Alvar Aalto and the extension of the Seinäjoki library

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Technical Editor: Aleksandra Urzędowska,
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Typesetting: Anna Pawlik,
Cracow University of Technology Press

Received: July 1, 2024

Accepted: November 21, 2024

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Data Availability Statement: All relevant data are within the paper and its Supporting Information files.

Competing interests: The authors have declared that no competing interests exist.

Citation: Šlapeta, V., Gierbienis, M. (2024). Evolution of public library architecture as based on the work of Alvar Aalto and the extension of the Seinäjoki library. *Technical Transactions*, e2024019. <https://doi.org/10.37705/TechTrans/e2024019>

Abstract

The end of the 20th century was a period of dynamic change for libraries. The growing popularity of new media, the development of television and especially the Internet, changes in the way societies, economies and industries functioned have all had a significant impact on the way libraries are run. Just as libraries used to be important places for acquiring knowledge, for accessing information, today the flow of information is different, and the book as a product is no longer as attractive, but also, even in the context of libraries, has ceased to be the main element of their operation. Institutions have found a solution to this problem by attracting audiences with both a more interesting and varied cultural offer.

The paper discusses how library architecture has evolved over the centuries on the case study of the extension of the public library in Seinäjoki. Finnish city is also known for the work of Alvar Aalto, who created a civic centre that also became the site of one of the most interesting libraries. Aalto was passionate about this form of use, which accompanied him through various stages of his career. Given that the old building and the new one were built less than half a century apart, it is interesting from a research point of view to compare their architecture, aesthetics and approach to spatial organisation.

Keywords: library, organic architecture, sustainable development, Alvar Aalto

1. Introduction

The design of libraries has undergone significant changes over the course of the 20th century, driven both by technological advances and by changes in the way societies function. As a result, they have evolved from places associated with places of concentration, providing access to knowledge, information and entertainment through books, to active cultural and leisure spaces offering the public much more. This process of transformation gained momentum particularly at the end of the 1990s, when the reading crisis was felt and libraries sought to modernise in terms of their functioning, but also indirectly by changing their image, which was more closely linked to architecture.

Approaching an example of such a transformation through the image of Seinäjoki, a city that is peculiar in terms of urban planning and architecture, becomes a universal summary of visible trends in the design of new facilities in the 21st century. The analysis of the library and its extension in Seinäjoki is an interesting example from both a theoretical and a practical point of view, both in terms of its functionality and its approach to the organisation of the space, the use of new, modern technologies and technical solutions, and finally its adaptation to current architectural trends.

Alvar Aalto, widely recognised as one of the most important architect and designer, with a significant influence on what modern architecture looks like, also had a significant influence on the development of the library. In his concepts one can see the solutions that determined how the spatial arrangements of buildings were shaped, the importance of handling form and attention to the role of natural and artificial light in the perception of space. His constructions in Seinäjoki, which includes not only the library but also a comprehensive and individual approach for the entire architectural and urban development, has retained both originality and an inspirational factor in many elements to this day (Capitel, 1997). JKMM architects, which completed the development, was faced with the task of fitting into this unique context, adding history and at the same time showing what a modern library building looks like today, looking directly at its older neighbour.

2. Evolution of libraries. From temples of knowledge to active social centres

The origins of librarianship were tied to providing society with access to education, science and culture. This was made possible by books – initially handwritten texts on clay tablets, then on paper, eventually there came the print revolution, and up to the digital files and the recognition of other forms of compilation as library collections. The first libraries were of an elite nature, often belonging to state rulers or clerical figures, by virtue of the fact that this group could read and write. Having a book collection helped cement its owner's reputation. At the time, libraries were exclusive, they resembled museum halls and seemed intended for a small group of people (Walentynowicz, 1970: 19).

Ancient states such as those of Greece and Italy, in recognition of the value of the development of research disciplines and the education of societies, considered the library to have an important role in shaping academia. However, it was not until the spread of typography and the development of printing in the Renaissance that the first publicly accessible libraries emerged. Initially, printing developed in Germany, followed by countries such as Italy, France, Poland, England and Turkey, primarily involving religious institutions, universities and centres of state authority. The idea of building public libraries stemmed from a need to provide the masses with access to the written word, to information and culture. In the early years, institutions remained the only place to come into contact with books, which were an elitist product. So-called

book meetings became popular, where joint reading often brought together people from different political or philosophical camps. Thus, libraries became a significant element in shaping societies, their level of knowledge, education and sensitisation, while at the same time building a national identity (Bieńkowska, 2005: 71–75).

Fig. 1. Biblioteka Mazarine (1643).
The first library facility open to the public in France. Main reading room with a distinctive hall system and a gallery along the walls (source: https://fr.wikipedia.org/wiki/Biblioth%C3%A8que_Mazarine)



The spread of public libraries as institutions in the 16th century in Europe was linked to the idea of wider access to books for the public, hence the first buildings of this type were located in Italy, France and Germany, and at first were a secondary use to different buildings. They were mostly singular large spaces with pulpits that allow the on-site use of books. Both the aesthetic appearance and the furnishings of the reading rooms emphasised the institution's rank, and architects intentionally operated with means of expression related to the period's signature style, emphasising the ennobling character of the space. And so, the Baroque period was dominated by monumental paintings, Rococo was characterised by ostentatious decoration, and Classicism by moderation and harmony. The idea of building in a hall system was retained until the 19th century (Bieńkowska, 2005: 119).

An elite library focused on the dissemination of written collections, it gradually opened up to the public and adapted its character to changing times. The 19th century has often been studied through the prism of the Industrial Revolution, a time of steam power and electricity. Transport and logistics solutions contributed to advances in construction and affected the functioning of institutions. What was important for libraries in particular was the sudden and rapid development of printing, which led to a gradual increase in demand for books. Since the nineteenth century brought an even greater interest in books and technology enabled them to be produced more easily, the number of book copies increased. In addition to books, other publications, such as journals, also appeared and became increasingly popular. This translated directly into a greater demand for their availability to readers. The observed increases in interest stemmed from the fact that the middle and working classes also wanted to come into contact with culture. As a result, the library spaces of the day ceased to become sufficient. Changes in libraries took place on two levels: at the level of the typology of functions and changes in spatial organisation (Bieńkowska, 2005: 149, 158–159).

The principle of tri-partitioning, i.e., the division of space into three zones: those of the reading space, storage and staff zone, should be considered significant for the development of libraries. This idea was raised by Italian architect Leopoldo della Santa in his 1816 book *Della costruzione et dell regolamento di una pubblica universale biblioteca*. Della Santa noted that – along with the print revolution – the number of books increased and that the institution of the library needed to be redefined. The most popular publications would be displayed as part of the open stack area near the reading desks, while the others will be stored in an economical separate area, the closed stack. Librarians were to be at the back of the reading area, offering to deliver to the readers the volume they would ask for, and working on catalogues, which – again, noting the high demand – had become a significant part of a librarian's duties (Associazione Italiana Biblioteche).

The building in Sainte-Genevieve, built in the years 1838–1851 in Paris, can be considered a model example of this principle. This library’s reading room has an innovative structural system, with an iron frame that supports its roof, and was designed by architect Henri Labrousse. The further evolution of the library reading space is to go beyond the idea of a single hall, which remained the main reading space, and to offer additional divisions into zones for different collections addressed to various audiences. The 19th century also saw the introduction of an order of collection organisation, where – in addition to the classic alphabetical one – descriptions appeared to differentiate and identify works to a greater extent. Extensive cataloguing manuals were drafted individually by institutions for their own needs, but also formed the basis for further universalisation and, ultimately, standards.

Della Santa’s concept was further developed into the four principles that form the canon of library design:

- ▶ the paths of the books, the librarians and the users must not cross¹,
- ▶ the storage area should have three points of access, from the study, the rental desk, and the reading space²,
- ▶ the main library branches that offer services to readers should be on a single level, on one floor if possible,
- ▶ organic extension: to allow for the possibility of adding additional parts to the library building, both horizontally and vertically – as needed.

Book access similar to the one we see today was introduced in the 20th century and was based on the simple premise of direct user contact with the collections, eliminating barriers. New media such as magazines and publications that should be easily accessible to the user led to attempts to set aside additional space within the reading room for displaying the latest additions to collections. Discussions gave rise to the development of the concept of free access to shelves. The first libraries, which treated the book as a luxury, did not allow for the user’s decision-making independence. The placement of books on shelves in the reading space seems obvious today, but it used to be revolutionary. They were observed and passionately advocated for by Umberto Eco, a writer, publicist and bibliophile. He believed that in an open-access library we have the chance to reach for a book that we are not looking for, but which will ultimately prove valuable to us. By deliberately placing furniture and furnishings, books can also be displayed in different ways, increasing their appeal and emphasising the features of a given volume. There is therefore a significant difference in the presentation of a piece of literature, a magazine or an album. At the time – by introducing open access to the book in the first phase – it was feared that the product would lose its prestigious status. Opponents criticised the idea in terms of encouraging rapid consumption, as well as fearing chaos in the orderly library area and even potential theft or damage. Free access was therefore fundamental to the evolution of libraries, emphatically emphasising the open nature of the institution, and it was difficult to imagine a library being built without it from the mid-20th century onwards (Żmigrodzki, 1994: 165–166).

Further changes were significantly influenced by technological evolution as well as worldviews, and – especially in countries affected by war – by the political and economic situation. Compared to new media such as cinema and television, the book did not seem attractive, but it still had its followers and was irreplaceable in science. However, this remained true until the emergence and eventual spread of the Internet, wireless connections and the development of mobile phones and then smartphones. These developments made access to data and information much simpler. Institutions, instead of opposing technology,

¹ This principle was defined by German librarian Paul Schwenke in 1908 and was subsequently implemented in an exemplary way in the Royal Library in Berlin.

² This principle was postulated by Greg Leyh, one of the most important figures in German librarianship. In 1912, in a fundamental essay entitled *Das Dogma von der systematischen Aufstellung*, he advocated the mechanised stacking of books in library stacks, without subject layout, arguing that it would save space. This solution was implemented in subsequent years primarily in academic libraries in Germany.

chose to introduce it into its own spaces, hence the image of a late 1990s reading space with desks and computer workstations. It is worth noting that this period was marked by the development and growth in popularity of video and computer game rentals, which were very attractive to adolescents, becoming a substitute for books, which were something new to their parents and grandparents. Libraries had to remain flexible in terms of the offer they created, so as to not limit themselves to the idea of access to the written word, and expanded into the presentation of other media. The library thus became a mediatheque, but not exclusively so. Things that could have attracted the public included unique solutions, namely the organisation of meetings with well-known figures, both in literature-related and economic or political disciplines. This also included the organisation of other events, workshops, performances or concerts.

As a result, buildings are less likely to be visited to borrow a book, as the book itself has become widely available for purchase, and more so to use the library space. This, in turn, now offers many options for spending time, learning or other activities. In order to make a space multifunctional, the use programme, as well as the spatial organisation, arrangement and furnishings were changed. Today's libraries have taken on the role of other public institutions, becoming places for meetings, cultural events and widely understood social integration. Their overarching role is also to shape the environmental sensitivity of their users, which underscores the educational potential of the institution.

The United States played a big role in recognising the social potential of libraries, seeing that this space is not just dedicated to readers, but can be a place for interaction. In 1989, American sociologist Ray Oldenburg first introduced the idea of the so-called third place. He dedicated his book *The Great Good Place* to this concept, in which he referred to the importance of places in the lives of residents. Oldenburg found that life revolves around three spheres of activity: home, work and social life. In addition to a place to live, which is the home, a place to work such as an office, a person also needs a place to socialise. This so-called third place is supposed to be something between a space where we feel at ease, can relax and spend time unproductively, and a space for a social life that people lack in the others. The researcher noted that the American public spends most of their time at home, which translates directly into a kind of stagnation, but also inhibits its cultural development. It is therefore important to have one's third place to break this effect. In the United States, clubs, bars and bowling alleys have become such places, in addition to libraries (PPS org, 2018).

In the case of libraries, in order to make their space more inclusive and therefore more aligned with the idea of the third place, it is crucial to provide proper zoning that accounts for different social groups and themes, as well as interior decoration that can be fitting for a coffee shop or club. Key to this is free access to the library's collection, which reinforces the perception of the library as open and welcoming. As a result, the library space resembles a home, where we are free to reach for a book from the shelf at any time and sit down to read with a cup of coffee. Often, communal tables also appear in libraries, when previously only individual work desks were present (Rasmussen, Jochumsen 2009).

In analysing the changes in perception as well as the social potential of the sites, it is worth noting the writings of Professor Jadwiga Kołodziejska³.

Jadwiga Kołodziejska was interested in the organisation of public libraries, their importance among local cultural and educational institutions, problems of

³ Jadwiga Kołodziejska – librarian and bibliologist, professor at the University of Wrocław, founder and first president of the Polish Reading Society, author of numerous publications on library and information science. She was a member of the National Library Council, The International Federation of Library Associations and Institutions, The International Development in Europe Committee of the International Reading Association, founder and president of the Polish Reading Association, honorary member of the Polish Librarians' Association. She was editor-in-chief of the journal *Bibliotekarz* from 1969 to 1983. She has published more than 700 articles and 20 books, among others diagnosing the situation of public libraries at crucial social and political moments in the country.

internal organisation, the division of the scope of activities assigned to the various links in the public library network, as well as the education and professional administration of librarians. Her research experience, her comprehensive knowledge of the functioning of libraries and their role in the system of science and education allowed her to actively participate in the activities of many related to book and cultural institutions, as well as proposals for necessary changes in their activities. She saw the decisive influence on the functioning of libraries in a set of external factors, social structures, in the level of civilisation, in the environment of library users and among the internal structures of librarianship. As a researcher in library and information science, she looks at these institutions from different angles, and appreciates the role of architecture in shaping the behaviours of users, which are ultimately aimed at creating an image of openness and accessibility of the building. The Professor emphasises the humanistic and social role of libraries, especially in building the identity of societies, referring repeatedly to the development of these institutions in relation to the country and its history. She also noted the need to keep fighting for the reader in the context of readership crises and pointing to the potential for libraries to develop by adapting to the needs of a new generation (Budyńska, 2017: 369–373).

Jadwiga Kolodziejaska focused on the changes in the functioning of societies in the context of new media and declining interest in reading. At the same time, she attributed the problems of running libraries not only to this, but also to the noticeable differences in the general development of countries, their attitudes towards books, social differences and, finally, to the difficult history of post-communist countries, where economic considerations have played a major role in the development of institutions (Kołodziejaska, 1995: 51–55).

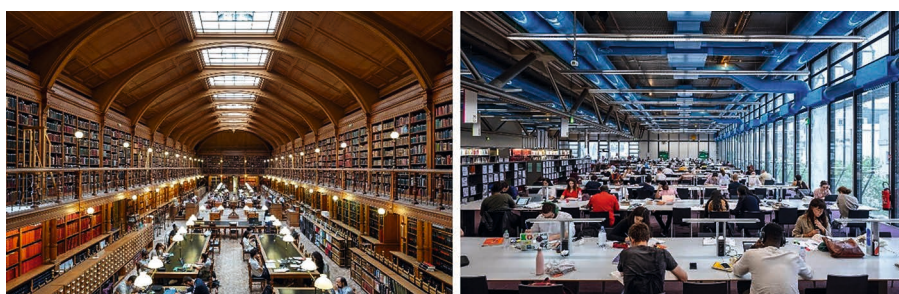


Fig. 2. Bibliothèque Publique d'Information (19th century photo on the left) and the Bibliothèque publique d'Information at the Centre Pompidou (1977, photo on the right). Both buildings are still in operation, retaining their initial aesthetics. At the same time, the photographs show both parallels and differences in the approach to the realisation of the reading rooms. While the use of media is different, the rooms retain their library atmosphere despite the passage of time, the paper books make up the décor and make the interior functional (Source: <https://thomasguignard.photo/galleries/libraries>)

3. Alvar Aalto and libraries

The work of Alvar Aalto, a Finnish architect and one of the most important representatives of Modernism, coincided with a period of change in library space. Libraries occupy a special place in Alvar Aalto's work, and at the same time, his style also developed as the institution's mode of operation evolved, ultimately providing interesting research material. Aalto designed and built numerous libraries, introducing into them solutions that had been seen as fresh at the time and essential to the further evolution of the library as an institution. It is worth noting here that Aalto was also widely known through his furniture and industrial design projects, which we can also see in the examples of libraries, where he paid just as much attention to the form of the mass as to, for example, door handles.

Aalto's work was also unique in that he noted the human–nature relationship. Assuming that humans are an intrinsic part of the natural ecosystem, this functioning implies harmony between natural and human-created elements. Through many of his works, whether buildings or furniture, Aalto expressed the purity of this message, the inspiration with the geometry of nature, as well as colour, material, texture. Significantly, he weaved into his designs an element of tradition associated with Finnish culture and Scandinavian style, which is pragmatic and rational, and loves that which is natural and humanistic. Hence,

the distinctiveness of his style is perceptible, despite being part of the Modernist design style that predominated in his time, a 'geometric spirit' different from the Bauhaus. Critics often refer to it as 'Organic Functionalism' (Du, 2019: 89–90).

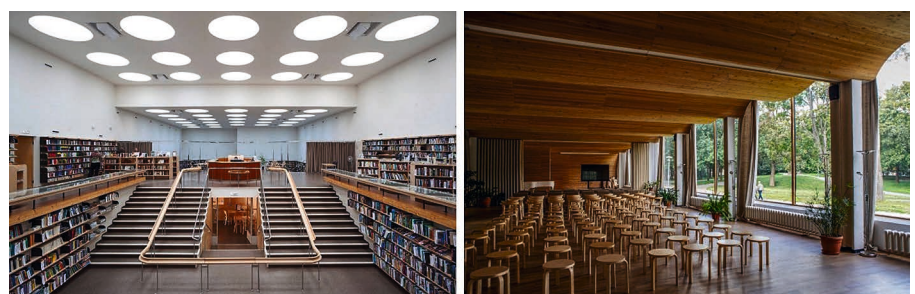
The effects of Aalto's projects are a combination of formal beauty and content in a holistic, organic expression. In his work, space, expressed by proportions and principles of practical use, is joined with decoration, texture, sometimes colour, which highlights a given project's aesthetic. In many instances, his works align with sustainability, with both economic and social assumptions, in addition to the use of eco-friendly materials and means of expression. During the design process, ecological considerations were taken into account, such as the right layout of the volume and rooms in relation to the cardinal directions, natural daylight, ventilation and opening up to the surrounding landscape. The approach to combining ergonomics, user comfort and ecological priorities is evident not only in the architecture, but also in the construction of furniture and applied art objects. Furniture, and above all the introduction of innovations and research in the approach to wooden structures, is a separate chapter in Aalto's career and that of his wife, Aino Marsio. It is to them that we owe the development of the technology of bending and laminating wood, as well as the organic aesthetic of furniture. One example is the iconic Paimio armchairs, a development of Marcel Breuer's Bauhaus concept (Du, 2019: 89–92).

Fig. 3. Viipuri Library (1935), A concept based on winning an architectural competition and Alvar Aalto's first library project. It underwent a major renovation in 2014. The photo shows a view of the façade with the main entrance and a close-up of the original implementation of the vestibule ironwork (source: <https://www.archdaily.com/630420/ad-classics-viipuri-library-alvar-aalto>)



The turning point for Aalto came in 1927 and the design of a library in Viipuri (present-day Vyborg), which won an architectural competition. The proposal was distinguished for its original approach to space planning, but ultimately had to wait seven years to be built. At the same time, this was a key moment for Aalto, when he decided to move from a classical style towards the aforementioned 'organic' aesthetic. As a result, the design changed significantly over the years as he himself developed, as Aalto found the first idea too classic. He wanted the interior spaces to be shaped more organically, which could be achieved by both the difference in levels and the height of the surfaces, keeping the staircase in the centre of the plan. He paid particular attention to access to natural light. With the completion of the Vyborg Library and the Paimio Sanatorium from two years earlier, Aalto began to gain international recognition. In the project, one can notice the appearance of elements characteristic of his style, inspiration with natural geometry and materials, the use of skylights in the handling of natural light, as well as the variability in the 'topography' of the interior space.

Fig. 4. Viipuri Library (1935) The interiors are defined by solutions characteristic of the Aalto style: lowering the floor, monumental, decorative staircases, circular skylights, organic forms visible in the ceiling surfaces as well as in the furniture elements and the details (source: <https://www.archdaily.com/630420/ad-classics-viipuri-library-alvar-aalto>)



The process of the Viipuri Library's design led Aalto to discover 'fantastic mountain landscapes' and create niches as spaces for reading, surrounded by stepped terraces of bookshelves, with natural light filling the spaces, creating a distinctive library landscape that we would later see in many projects (Quantrill, 1990: 12–66; Kairamo, 2013).

For Aalto, the starting point for developing a particular building and function was to consider people and their needs, and he is often described as an architect who humanised the modernist architecture from which he came. One element of library design that is extremely important from an architectural point of view is lighting. Natural light was important to Aalto because of the variety of reading activities. In order to reduce the strain on the human eye, he preferred indirect light, as can be seen in the characteristic round skylights and the so-called monoporos glass system used, which is a humanly rational approach, as it provides a type of light suitable for reading, mixed and softened by the reflection from the conical surfaces of the round skylights (Kim 2009: 11–12).

Other library projects by Alvar Aalto include the Woodberry Poetry Room Library at Harvard University, the Săynätsalo Library, the Library at University of Jyväskylä, the Wolfsburg Cultural Centre Library, the Rovaniemi City Library, the Nordic House Library, the Aalto University Learning Centre, the Library at the Mount Angel Abbey and the library within the Seinäjoki city centre development.

4. The Seinäjoki Civic Center

The Seinäjoki case can be considered a model example of Aalto's contribution to the development of library architecture, as here the library is not only an excellently operating institution, but also a significant element in the city's identity. The Finnish city's urban design proposal is derived from earlier unbuilt visions for Avesta and Imatra, where the architect envisaged a composition of diverse uses, creating a socially integrating space and using natural inspirations.

Alvar Aalto was in contact with city of Seinajoki already from the beginning of his career, when he designed 1924 – still in the spirit of "Nordisk classicism" the House of Civil Guard. He renewed contact with the city after more as quarter of century, when he has taken part- 1951 – in a competition for Laukeden Christi Church and his entry was awarded first prize. In this design he reflected longitudinal conceptsh of modern Finnish protestant architecture from Thirties and he enriched them by his original, fresh and poetical language. The execution was than indeed postponed till the end of Fiftieth. Meantime, the city has announced a competition for the new city centre in the immediate vicinity of the Laukedan Christi Church. Aalto again convinced the jury with his proposal and got commission to design master of the city centre. Unfortunately, it took time to realise such ambitious plans as the architect had and the final shape of the foundation was given many years later.

The site of the Aalto Centre was originally a piece of flat land, but Aalto transformed it by significantly redesigning the area in front of the Town Hall to create an artificial hill, while the courtyard in front of the church was raised to create an auditorium. At the inauguration of the City Hall in 1962, Aalto said that Seinäjoki is not content with just one or two public buildings, it has planned a group of public buildings that will bring people together and for a complete spiritual centre for the city. Overall concept with attention to the individual character of each element project belongs to his masterpieces. On the western edge of the church area, he developed a beautifully shaped new town centre with an organic piazzetta, with the town hall to the north and the library to the south. Later, at the western end of the site, he added the Municipal Theatre, built by his wife Elissa 10 years after the Maestro's death in 1976. The Seinäjoki Civic Centre, now called the Aalto Centre, is separated from the rest of the city by a green belt, remaining a peaceful and valuable space for residents (Niskanen, 2022: 49–50).

Fig. 5. Seinäjoki Civic Centre. Photo taken after the construction of the new library (photo on the left) with the Aalto-designed buildings: library, town hall (picture on the right) and theatre (in the background) (source: <https://www.wikidata.org/wiki/Q4250273>)



The library was completed in 1965 and is located opposite the town hall. Object, whose horizontal elongated shape was dominated by the round – resembling a fan – raised segment of the reading room, forms an interesting dialogue with terrace-like rising volume of the town hall, culminating in the assembly hall of the city council. The white surface of the library contrasts with the ceramic cladding of the vertical figure of the assembly hall in dark ultramarine color. The Library is developing further Aalto's concept of split levels of the Viipuri Library in very sensible way and in smaller scale.

While the entrance area of the town hall is highly articulated via the introduction of an external green staircase, the front facade of the library remains purist. The dark plinth conceals a staircase highlighting the entrance in the middle of the facade, which remains, like the entire mass, uniformly white. Thus, it seems as if the entrance to the building is as if along a pedestrian walkway, while at the same time the lack of windows gives the impression of highlighting the intimacy of the interior space. Formally, the building consists of two masses, derived from a rectangular plan and a section of a circle. The forms interweave both when looking from the outside and inside. In the centre of the floor plan there is a niche in the floor, a distinctive element in Aalto's libraries, as it increases the height of the central space. The main reception counter was placed in the niche. The idea of spatial organisation remains clear – it is an open space with columns as support elements and bookshelves placed along the walls, surrounding the reading stations. Just as the walls and ceiling are white, the furniture is a warm wood colour. As in his other projects, Aalto places great importance on daylighting the space, and he shapes light through the jagged ceiling, another frequent element in his work. In the case of this library, it is the element that attracts the most attention and builds the reception of the interiors. The ceiling's dynamism is particularly noticeable when the sun's rays get inside diffused by the external blinds. Vertical divisions form a barrier between the inside and the outside, cutting off the interior space from the outside world (Quantrill, 1990: 176–182).

Fig. 6. Seinäjoki library (1965). Front, entrance facade, view from the main walkway (source: <http://www.archipicture.eu/Arhitekten/Finnland/Aalto%20Alvar/Alvar%20Aalto%20-%20Seinajoki%20Library%205.html>)





Fig. 7. Seinäjoki Library (1965). A view of the façade with a fan-shaped block with distinctive louvers and a photograph of the interior showing the soft lighting of the reading room space (source: <https://www.arkkitehditmustonen.fi/en/projects/aalto-library>)



Fig. 8. Seinäjoki Library (1965) The overall design draws attention to the approach to the availability and control of natural and artificial light depending on the use of the space (photo by authors)

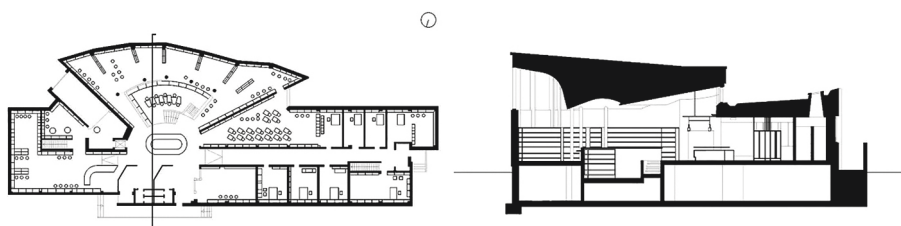


Fig. 9. Seinäjoki Library (1965) Ground floor plan with section through the reading room (source: <http://arqbibliotecas.blogspot.com/2010/11/biblioteca-en-el-centro-civico-de.html>)

5. Need for extension – JKMM Architects design

As Seinäjoki grew and the way library operations evolved, the library was unable to meet current demands. As a solution, the city decided to take up the idea of extending the facility, but approaching the task in a non-standard way, without affecting Aalto's architecture. A new mass was to be built at the rear of the site, where there was previously a surface car park, in which case the two buildings would be functionally complementary.

In 2008, an architectural competition was organised in which JKMM Architects' proposal called 'Apila' ('Clover') was the winner. For the architects, it was crucial to address the location in the context of the civic centre created by Aalto in order to initiate a dialogue between the new and the old. This was done by subtly referencing unique features of Aalto's architecture while avoiding direct quotations and imitating motifs. This was done while simultaneously offering a space that would fully reflect the expectations of the contemporary user.

When JKMM Architects entered the competition, they already had a significant library project to their credit in Turku, which was an extension to a building in the city's centre. At the time, the main idea was to create a building that would close the 19th-century development block, which would harmonise with the historical context while at the same time being an expression of contemporary architecture. The new mass was introduced in a way that continues the street frontage and defines the inner courtyard as a place for recreation and cultural events. The coffee shop and meeting room complex remained in the old part, while reading and office spaces remained in the new part.

In the case of Turku, JKMM Architects wanted the space to be flexible and barrier-free so that it could be changed in the future. The resulting spaces are, through finishing material selection, perceived as bright, and well-lit with a soft

light due to deliberate decisions on the placement of glazing and other semi-opaque materials. The building's structural elements are made of concrete, which is exposed in some parts. Decorative concrete was formed using boards to obtain a coarse appearance, distinct of this material. The main finishing material is wood, visible on the walls, ceilings and in the furniture. The dynamism of the final perception of the space is enhanced by the variation in height of the space through the introduction of a mezzanine floor. This approach to library design is also noticeable in the proposal for Seinäjoki (Archdaily, Turku City Library JKMM Architects).

What JKMM Architects and Alvar Aalto have in common is the anecdote that, since winning the competition, the architects have also had to wait several years for their vision to be built. The building in Seinäjoki was finally commissioned in 2012.

Fig. 10. Seinäjoki Library (2012) A view showing the coherent yet contrasting effect of the geometric composition of the new library with its distinctive copper cladding (source: <https://www.archdaily.com/360049/city-library-in-seinajoki-jkmm-architects>)



Fig. 11. Seinäjoki Library (2012) The open to public library space has a multifunctional character with a amphitheatre-like stairs, allowing descent to the underground level (source: <https://www.archdaily.com/360049/city-library-in-seinajoki-jkmm-architects>)

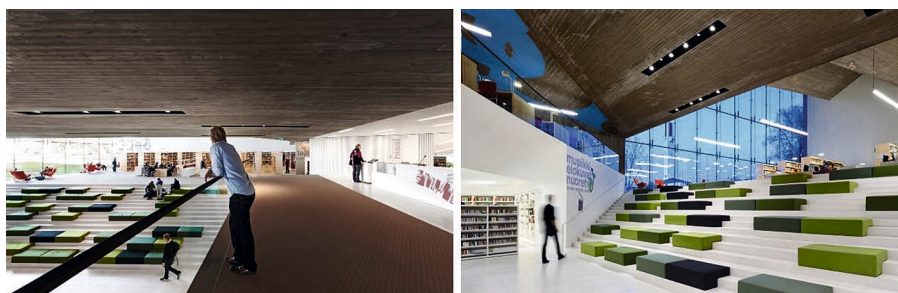
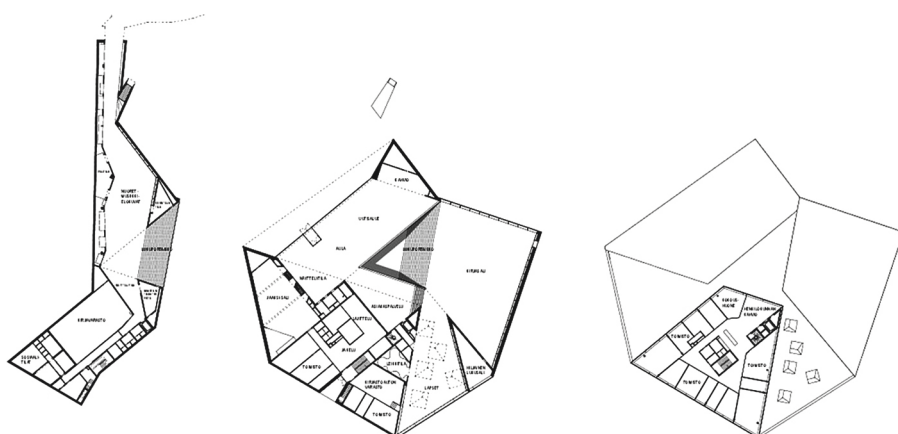


Fig. 12. Seinäjoki Library (2012) Underground plan with passage to the original building, main ground floor plan and first floor plan (source: <https://www.archdaily.com/360049/city-library-in-seinajoki-jkmm-architects>)



In contrast to the urban character of the centre, the mass was located in the park area at the rear of the development, which made it possible both to leave the centre's buildings untouched and to emphasise the autonomy of the institution, while recognising – like the Finnish master – that the priority is the natural landscape, which becomes the immediate vicinity of the building. The aforementioned clover, as the competition name for the project, can be found in the sculptural as well as – in continuation of Aalto's work – organic form of the building, which is composed of three irregular, interpenetrating masses.

This new part of the library connected with the old part by tunnel offers fulfilling of new functions of libraries in 21st century with all new technologies. This extension consists of three sheds the walls and roofs in dark copper. The complex geometry of the massing makes the building appear to lack traditionally orthogonal facades, remaining variable in perception depending on where it is viewed. And so the facades are viewed primarily through individual frames, e.g., the trunks of the birch trees surrounding the complex. The choice of facade cladding material is significant here. These are polished, scale-shaped copper panels that seem even more clearly to seek an analogy with nature, as well as indirectly with Aalto's philosophy. Even though the volumes of the new extension are larger than the volume of the original Aalto library, the choice of this materiality and dark colors optically reduces their impact. Only the entrance wall, composed as a gate, is in white color.

The entrance area is visible through a niche highlighted in white, which is located opposite the existing library's mass, also rendered in white. In the niche there is a wide glass window through which the foyer can be seen. The largest, yet tall glazing encloses the second part of the building, opening up to views of trees.

The body of the building is divided into three parts with a central multifunctional space and a wide amphitheatre-like descent to the lower level. It is therefore not just circulation, but part of the use of the space. The design of the floor makes it possible to obtain a variety of interior spaces, which connect in one open plan, and are at the same time separated. References to the fan-like character of the interior and the ceiling dynamism of Aalto's original library can be seen here. Another inspiration from Aalto's philosophy was the construction of a reading area in the floor niche, which was intended to provide an intimate atmosphere for readers and not to disturb the view of the bookshelves. The floor niche includes a passage to an underground corridor, which is a functional link to the existing mass. The passageway is similarly organic in shape, white and bright, filled with shelving units and obtuse niches in the wall.

The sculptural exterior form translates into interiors which, due to the use of long-span beams, are devoid of partitions. The texture of the concrete, created with uneven formwork planks and deliberately imperfect, is also visible. Coarse walls are contrasted with smooth white plastered walls, emphasising the precise geometry of the space. Unlike the old library, in the new one, the architects made sure that the reading rooms were not only well lit, but also had windows with views of the surrounding buildings and trees. As in Aalto's approach, the furniture and bookcases are primarily wooden, with the addition of soft materials and colours that emphasise the warm perception of the space (Archdaily, Seinäjoki JKMM Architects).

The 21st century is one in which attention is no longer just intuitively, but practically, paid to the principles of sustainable design. This perspective has been incorporated into the design solutions. High-quality building materials have a long service life. The compact shape, good thermal insulation of the envelope and the air conditioning system with heat recovery guarantee high energy efficiency. To minimise the need for cooling, all large windows face northwards, minimising the thermal load from the sun (Scandinavian Architects, Seinäjoki JKMM Architects).

6. Discussion

The case of Seinäjoki illustrates two important issues from the point of view of architectural research. It introduces new development into the historical context and demonstrating a contemporary approach to building a library for the 21st century. The construction of a new building offset from the existing one, but keeping the functional link already invisible because it was reduced to an underground passage, certainly was the right solution. It enabled the

respecting and thus not interfering with a widely recognised work, and to free the designers' creativity.

The abstract proposal of the cloverleaf is an interesting conceptual premise that subtly relates to Aalto's design philosophy, but contrasts the soft forms he introduced with the curved and angular, making the new building simultaneously contrasting. In the frame where the two masses meet, one can observe what critics often describe as a dialogue between the new and the old. In addition, the buildings also deliberately contrast through the choice of facade finishes. Aalto chose a neutral white colour to bring out the nuances of the form's light and shadow, while JKMM used dark copper planes to emphasise the dynamism of the new geometry. The dark finish and the location set back towards the trees allows the building to blend in with the landscape, which can be seen as a way of escaping from a commonly recognised neighbour. This withdrawal also ensures that the viewer does not feel the scale of the mass, which is much larger than the original library.

'In order to reconcile the building's large volume with the dimension of the previously existing civic centre, the library was divided into three sculptural sections, creating a different aspect revealed from each direction. The new building keeps its distance from the outlines and materials of the old civic centre, and it is located amidst several lawns. "The dark copper of the façades stands out from the whiteness of the surrounding Aalto buildings, the contrast helping to detach the new from the old", states JKMM partner Asmo Jaaksi (domusweb, Seinäjoki JKMM Architects).

What is a sign of modern times and not seen in the Aalto mass is the much greater use of glazing and the opening up of the reading space to the adjacent landscape, whether it is a park or even the city. Just as one used to seek peace and quiet in the library, and for the visit not to be disturbed by anything, it is now widely recognised that the reading room window acquires the role of an exhibition, offering an aspect not only from inside outside, but also the other way round. This change is evident in the new mass. While Aalto focused strongly on creating the right conditions for the reader, using skylights and glass obscured by blinds, JKMM Architects proposed to expose the reading room expressively through two significant glazings, located in the 'arms' of the clover. The wide glazing in the alcove emphasises the entrance to the multifunctional reading space, while a second high one reveals both the bookshelves and the impressive geometry of the concrete ceiling, which surprisingly levitates above the reading room floor. Here we notice another novelty in relation to Aalto's designs, which is a direct result of the times separating the projects. One can risk making the statement that had the architect lived today, he would have also considered such a structure, to avoid supports that he had been forced to use. The idea of open space unites the two buildings, but JKMM's technological achievement was to get rid of the columns altogether. This effect is also reinforced by the reflection of the aluminium facade system, minimising the presence of frames, further establishing a relationship with the outside. It can be considered that the modernity of the technologies that are available today gives architects the opportunity to materialise bolder visions, which favours the design of libraries, on the assumption that a library today is to be a place that exhibits modernity, innovation and evolution.

In his designs, Aalto attached great importance to the intuitive use of space, hence his frequent use of spatial solutions developed through experimentation, e.g., the lowering of levels, differences in ceiling heights, the centralising nature of stairs, emphasised by varying runs and balustrades, treating them not only as an element of circulation but as a significant means of expression. These solutions are present and even often developed in today's libraries. These solutions can be found in both buildings. There is an important sequentiality in them and an attention to the perception of the space from the very entrance, dosing the experience of the viewer. In the case of the new building, one finds oneself almost under the concrete ceiling as soon as one enters, and takes

a moment to pass through to find oneself under the – cave-like – geometric composition of the high cast concrete ceiling. As we enter, we can look at the lower part of the surface, which is analogous to the situation we will encounter in the Aalto Library. The aforementioned niche divides the space into two parts, and the stairs to the lower area is wide and becomes an amphitheatre, often expected in a contemporary institution. Such an auditorium is visually very impressive, but also multifunctional and flexibly used by librarians (Architects journal, Concrete kaleidoscope).

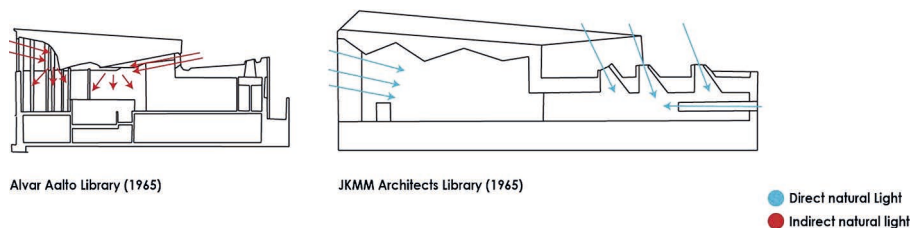


Fig. 13. A diagram indicating the architects' approach to illuminating the space (graphic based on source <https://pl.pinterest.com/search/pins/?q=48105-S15>)

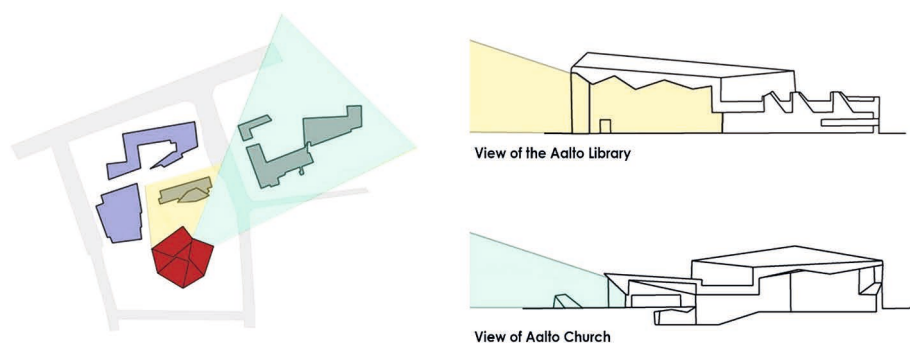


Fig. 14. Diagram indicating the view openings of the new library (graphic based on source <https://pl.pinterest.com/search/pins/?q=48105-S15>)

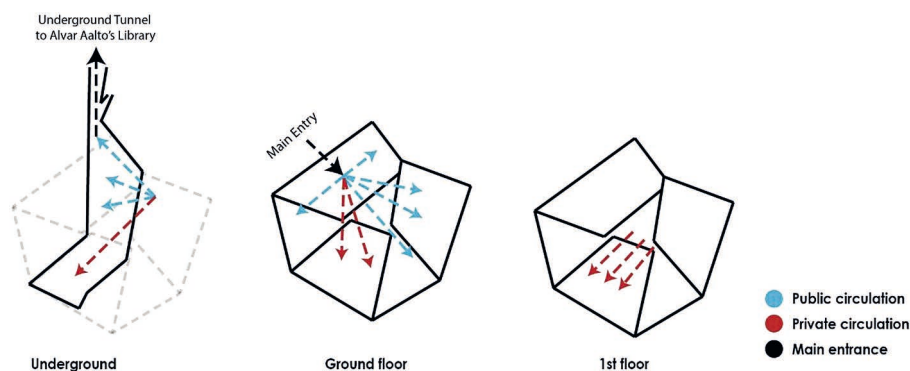


Fig. 15. Diagram indicating the public and private accessibility of the space of the new building (graphic based on source <https://pl.pinterest.com/search/pins/?q=48105-S15>)

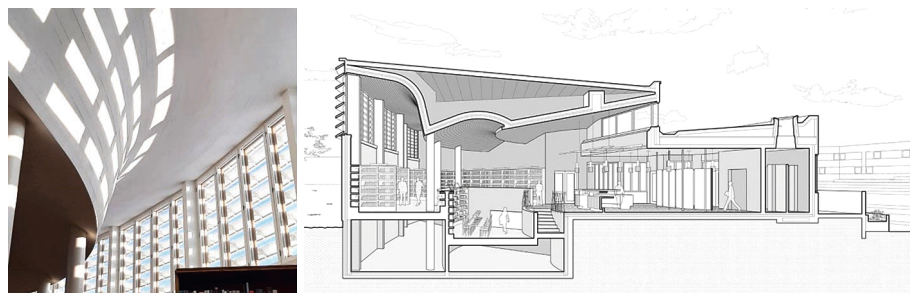


Fig. 16. Seinäjoki Library (1965) In designing the library, Aalto pays attention to natural light while avoiding direct light. The photo shows a close-up of the louvers, a 3d cross-section of the character of the interior space (source: <https://kirjasto.seinajoki.fi/en/library-buildings/aalto-library>)

The present-day library is first and foremost a reading space, but treated through the prism of multifunctionality, thus allowing for rearrangements as well as a variety of uses of the space. The use programme of the new building reflects the needs of a medium-sized city. The open spaces flow seamlessly into one another, and looking at the changing uses, the surfaces are conducive

to meetings and interactions. In Seinäjoki, special attention was paid to the collections for children and young people, which have been developed from the perspective of younger user groups. The aforementioned technological advances currently make it possible to achieve a barrier-free, high and well-lit area, but the spatial organisation is also important, as the rooms that need to be sectioned off have been built in such a way as to remain essentially invisible. And so it is with the design by JKMM Architects, who, using the geometric floor plan, were able to hide what does not need to be exposed and place the administrative area on the floor occupying one of the arms of the clover (domusweb, Seinäjoki JKMM Architects).

JKMM Architects also deliberately used spatial and aesthetic solutions to build a clear, yet unique effect for the institution in the idea of being a space that has its own identity. Today's libraries, one might say, actively strive to be unique, which is intended to make visiting them a truly individual experience. Moving away from formalism and following standards is a much-anticipated feature today, as well as giving a lot of room for creativity to designers. It is no longer just about designing a potentially well-functioning interior, but one that has its own identity. The uniqueness of JKMM's design lies in the translation of the geometric exterior form into viewing effects that we can easily observe inside. The effect of angularity accompanies us in various ways. At certain angles, the space appears to divide into parts, which is emphasised by the division of the ceiling and floor. The views of the glazing and the edges of the finishing elements, such as the amphitheatre, are also surprising. There is a very intentional use of surfaces and surface finishes, as well as the choice of graphics, which both help to make the space more familiar and themselves become part of this inner library world. Absorbing the viewer with such tricks of perspective is both reminiscent of Baroque times and a sign of the digital age (Architects journal, Concrete kaleidoscope).

Fig. 17. Seinäjoki Library (1965)
The photographs show a comparison of the front and rear elevations (photo by authors)



Fig. 18. Seinäjoki Library (2012)
The photographs show an analogy in the spatial composition of the volume and interior (photo by authors)



7. Conclusions

“To attract visitors, a well-functioning library must provide experiences”, argues Asmo Jaaksi (Architects journal, Concrete kaleidoscope).

Social commentators, librarians, politicians and architects themselves argue that today's libraries must be centres of their communities, places of meeting and interaction, perhaps on the edge of symbolic classical silence, and looking

to technological innovation. A look at the traditional image of libraries therefore has something nostalgic about it. Therefore, using the example of Seinäjoki, it can be seen as a valuable decision to leave an old building in use as a testament to its times, but also to appreciate what is inevitably changing. Aalto's library is at the same time a museum of his philosophy, his approach to handling daylight and consciously creating a space that provides comfort for the typical reader who expects to lean quietly into a reading. Despite the passing of decades and the proclamation of the imminent death of the paper book to be replaced by the digital file, there are still both books and their readers, and the library today means diversity. On this principle, the two buildings coexist and complement each other.

In the end, the interior of the new building is a generous open-plan with split level and with excellent relations between various functions – café, exhibition wing, computer space, children department, the tunnel to Aalto Library and tiered seating area inside and with beautiful views through glazed walls towards Aalto buildings around. On the one hand, the building respects and reflects Aalto's architecture and on other hand, it creates a symbol of shift through new means and architectural forms towards spirit of life in 3rd millennium.

Alvar Aalto's legacy in relation to libraries seems to be relevant and still inspiring in many places. The Finnish architect's designs exceeded what was in place at the time. Just as using Modernism not as an end but as a means to create its own autonomous design philosophy, the concepts, despite having been created half a century ago, are still fresh in the view of a space that already aspired to be dynamic and flexible in its use.

We also owe to Aalto the consideration of details in the design process. To the designer, contact with the library began with grabbing the handle, which he regarded as an essential part of the concept. The design of doors, balustrades and staircases was an element that was, on the one hand, essential to the overall perception of the space, but also valuable in itself, as they were often small works of art. The reading room is desks, seating, bookcases, and furniture designs occupied a separate – no less important – place in the Finn's work. Today, the interior design of libraries is to a greater extent based on unified detail, belonging to manufacturers, factories, and furniture is purchased in bulk. This is a flaw of modernity and in this field the new library does not stand up to comparison with the original. "Sad to say, but I think the golden ages of Finnish design and architecture were the 1950s and 60s, (...) That's why we must search for momentum from Aalto's heritage over and over again. On the other hand, Aalto was such a genius that he made something exceptionally great and lasting. But certainly we should also find something unprecedented and fresh" – states Jaaksi (Phaidon, Alvar Aalto Library reworked).

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