
The Emergence and Challenge of the Modern Library Building: Ideal Types, Model Libraries, and Guidelines, from the Enlightenment to the Experience Economy

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ABSTRACT

The evolution of modern libraries has been closely related to the development of modernity in Western societies, both in relation to the development of social life in the last centuries and to the growing importance of reading, information, and knowledge and to the ideas of enlightenment, democracy, tolerance, and the open society. The increasing number of library buildings and the development of library space are part of the greater accessibility of information, the opening of the organization of knowledge, and the creation of a public sphere. This article examines the making of the modern library building and the related discourse by selecting important model buildings, guidelines, discussions, and experiments reflecting various cultural and social visions of democracy and openness. The perspective is international. An investigation is made of the physical as well as the social construction of the modern library space and of its identity and “libraryness.”

LINKS TO MODERNITY

The development of modern libraries has been closely related to the development of modernity in Western societies, both in relation to the development of social life in the last centuries and to the growing importance of reading, information, and knowledge and to the ideas of enlightenment, democracy, tolerance, and the open society. The increasing number of library buildings and the development of library space are part of the greater accessibility of information, the opening of the organization of knowledge, and the creation of a public sphere.

The aim of this article is to examine the making of the modern library building and the related discourse by selecting important model build-

ings, guidelines, discussions, and experiments reflecting various cultural and social visions of democracy and openness. The perspective will be international. The article will investigate the physical as well as the social construction of the modern library space and of its identity; and of, what Greenhalgh, Landry and Worpole (1995) have termed, its “libraryness.” Some of the examples offered below have been more important for the actual building process than others. Some are existing buildings, some are practical building guidelines, others are exhibition models, utopian projects, or avant-garde experiments, but together they constitute various ideal types of the modern library building, which reached its peak in the twentieth century. Around the millennium, the idea of the modern library and its physical library space was challenged by the growth of information technology and its consequences.

ADVICE FOR COLLECTION, ORGANIZATION, AND BUILDING

The first comprehensive theory of library organization was formulated in 1627 by the Renaissance physician and librarian Gabriel Naudé in his *Advice on Establishing a Library* (1627/1950). Naudé was the librarian of the French Cardinal Mazarin and created his library. Naudé’s theory was characterized by Renaissance humanism, emphasizing thorough and comprehensive studies. It presented all-round guidelines, not only for arranging library collections, but also for furnishing and equipping library premises and making them accessible to the public. He introduced modern principles such as open access, collections displaying a diversity and friction of opinion, and professional order. He recommended a practical design of the library and preferred a quiet location, possibly near a beautiful garden. He praised contemporary libraries of Sir Thomas Bodley in Oxford, of Cardinal Borromeo in Milan, and of the Augustin brothers in Rome for their open access. The library of the Medici in Florence was “beautiful and admirable.” His principles formed the basis for the development of the modern library.

Naudé is primarily concerned with the principles of organizing library collections, and his reflections on designing and arranging the library space are directed toward the relatively few collections of noblemen and wealthy patrons of the time. His thinking is aimed at arranging high quality collections of books in existing buildings and dwellings, not for building new public library buildings or even creating a library movement. However, his practical advice, stressing the actual functions of the library, not as an expression of representation but as a place to read and use the collection of books, foresees the rationality of the modern library. He prefers practical design to expensive decoration, and good-quality printing to precious bindings.

The place of the library should be chosen as “a part of the house as far removed as possible from hubbub and annoyance, not only what comes

from outside but also what is normal to the family and the domestics, by removing it some distance from streets, the kitchen, the servant's hall, and like places; to situate it if that be possible, between some spacious court and a pleasant garden, from which it may enjoy good light, a wide and agreeable prospect, and pure air, unpolluted by marshes, sinks, or dunghills" (Naudé, 1627/1950, p. 60). There is no need for spending money on unnecessary binding or decoration. Suitable shelving is preferred: "Even less ought one to use gold on his ceilings, ivory and glass on his wall, cedar for shelves or marble for his floors, since this sort of display is no longer in style, nor to put books on desks, as the fashion once was, but on shelves that cover entire walls" (p. 72). Most important is the purpose and ideal of open access to the library as in the libraries of the Romans, "where anyone may enter at almost any hour he chooses, stay as long as he pleases, see, read, and take notes from such authors as he desires, and have every means and convenience for doing so, either in public or in private" (p. 76).

PROJECTS OF THE ENLIGHTENMENT: THE GRAND LIBRARY DESIGN

In the Enlightenment a new notion of public libraries arose against the background of an expanding readership and a growth in the number of published books and scientific, literary, and political journals. Architectonically the ideas of the Enlightenment were expressed in a series of grand utopian projects. The French Enlightenment architect Étienne-Louis Boullée envisaged a universal library in grand design that, like the French Encyclopaedia, would gather, order, and disseminate all available knowledge. Boullée's library projects, from 1784 and the following years, were called the *Bibliothèque du Roi*. Before the French Revolution the king and the state were so closely intertwined that one could interpret the royal library as an institution in which the state began to assume responsibility for providing books to the people. After the French Revolution the *Bibliothèque du Roi* became the *Bibliothèque Nationale*.

Boullée's revolutionary library project was a manifesto for the kind of building that would promote access to knowledge and educated thinking—the prerequisites for an enlightened and critical public discourse. It had the same universal character as several of Boullée's utopian projects, especially his project for a cenotaph for Isaac Newton as an enormous sphere, where the upper half of its surface was pierced by countless small holes, picturing the Northern Hemisphere. As "architecture parlante" it was an expression of the idea of enlightenment with its vision of the universal library with access to universal knowledge.

Since 1724 the Royal library had been installed in the former Palais Mazarin. It was Boullée's idea to create a public reading room by throwing an immense barrel vault over the existing courtyard (fig. 1). He was

inspired by Raphael's fresco *The School in Athens* in the Vatican, and tried to realize it in the library building. In his *Treatise*, Boullée was especially interested in the importance of the public library building: "If there is one subject that should please an architect, and at the same time enflame his genius, it is a project for a public library" (Boullée, 1953, p. 76; Braham, 1980, p. 116). His description of the "amphitheatre of books" was almost poetic:

I have always wished that our literary riches should be presented in the finest possible surroundings. That is the reason why I have always imagined that nothing could be greater, more noble, more extraordinary than a gigantic amphitheatre of books. That, in this vast amphitheatre, people will be placed in various rows, so that the books can be distributed by passing from hand to hand. You can arrange that this procedure will be almost as quick as the spoken word, and you need not be afraid of the possible dangers of ladders. (Boullée, 1953, p. 78, author's translation)

The fear of ladders was due to the fact that high ladders were common in Saal galleries.

The entrance to the enormous library building was guarded by two Atlas figures, carrying a globe, symbolizing the universal character of the building. The inner space was ninety meters long with four book galleries with a height of up to four meters. Above the galleries were series of columns and a coffered vault with a rectangular opening toward the sky. Like in the Pantheon, the light, coming in from above, was showing time of day, month, and year, thereby connecting the inner universal library collection with the outer universal space and its movements and order.

Whereas Naudé's *Advice on Establishing a Library* was the librarian's vision of a modern library collection in suitable surroundings with the principle of open access, Boullée's vision of the modern library in his *Treatise* was an architect's manifesto for a utopian building. Boullée did not design tables and reading places for the public, nor had he any advice for organizing the collection. Indeed, the groups of people in the library look like the classical philosophers in Raphael's fresco, and they seem very small in the huge Saal library. The library was a manifestation of the temple of knowledge. It was never built, but it acquired significance as the model for a series of grand library buildings of the nineteenth century and gave libraries and other cultural institutions a new, hitherto undreamed centrality in the urban landscape.

At the same time, educational parks were established, such as the Wörlitz Park at Dessau in Germany with both examples of agricultural cultivating methods and a small library building housing agricultural and horticultural literature. Visitors could bring the library's books into the park with them, both enjoying and being educated by the surroundings. In Beverwijk in the Netherlands, the female writer Betje Wolff built a small

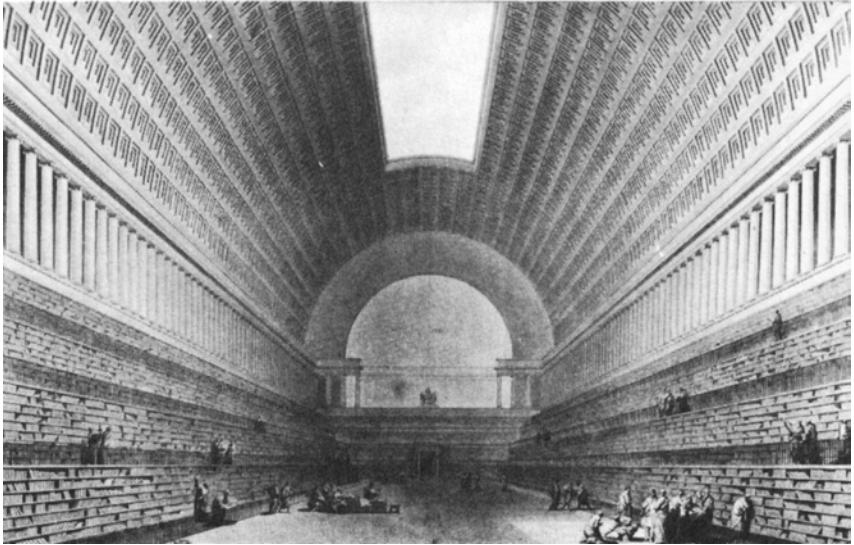


Figure 1. Étienne-Louis Boullée's utopian library project from around 1780. Source: Wikimedia Commons.

hut with a library in her garden around 1780. This decentralization of the dissemination of knowledge was possible because of the easier access and transportation of smaller books (Fröberg, 1998, pp. 143–145).

The library visions of Étienne-Louis Boullée inspired the grand library designs of the nineteenth century. In 1850 Henry Labrouste finished his *Bibliothèque St. Genevieve* in Paris. He conceived the building as a monument to the history of civilization and knowledge. The exterior was covered with plates, showing inscriptions of 810 names of international authors, philosophers, and scientists—from Moses to the Swedish chemist Berzelius—in chronological order, almost like a catalog in stones. Thus the building itself became a document, a book. The interior of the building had iron columns and decorative iron arches over the vast reading room one story above ground level. In 1875 Labrouste finished a new building for the *Bibliothèque Nationale*. In the reading room sixteen iron columns carried nine domes of faience and glass. Murals were painted with wooden motives with blue skies.

The Helsinki University Library opened in 1845, designed by Carl Ludvig Engel and inspired by classical motifs. It was part of the Senate Square complex with the Helsinki Cathedral as the central building, surrounded by the Senate as well as the university buildings. The whole classical city plan as well as the individual buildings came very close to the visions of Boullée and other contemporary architects. Both the external and inter-

nal architecture of the library had classical references, based on the Corinthian column system with coffered vaults. In Copenhagen, J. D. Herholdt designed a new University Library in 1855–61 with elegantly slim iron columns and a tunnel vault, painted in pastel colors.

Fine examples of the grand library architecture of the industrial age are the cupola of the British Library in London from 1857 by Panizzi/Smirke and the Library of Congress in Washington from 1897 by Smithmeyer and Pelz. The reading rooms were panoptically arranged, respectively radially and concentrically. Many public institutions from this period were built as panopticons, affording supervision from its center. The Library of Congress also had a monumental staircase, which was a new representative element in library architecture. This type of grand design of primarily national and university libraries—often in Beaux Arts Style and various historical styles—at the end of the nineteenth century spread over North and South America, Europe, and the European empires.

MODERNIZATION

Serving larger numbers of people, public libraries began to organize their space and their methods of distribution more strictly and professionally. In terms of architecture and interior design, library buildings became steadily grander, more numerous, and more prominent as features of the cityscape, with monumental facades in historical styles, often including classical elements that expressed the Enlightenment tradition. The interior modernization of the logistics of library buildings was an innovation that maintained the tradition of classical architecture, yet also corresponded to the industrial modernization of society. In contrast to Boullée's utopian projects, the practical organization of the library was developed. Lending to larger numbers of people meant standardizing classification, arrangement, and the labeling of books, as well as routinizing library procedures, including those for borrowing and returning. Advanced systems were introduced for the physical transportation of books both inside and between the new libraries. The big American public libraries developed all-purpose systems involving small carts for moving books around internally and horse-drawn vehicles, later superseded by motor vehicles, for external transport. Whereas the reading room had been the central feature of the classic European libraries, the lending department now became the most important room in the library. At the same time, extensive systems of branch libraries and deposit stations, mobile libraries, traveling libraries, and book distribution boxes were developed.

In several American cities, including Boston, Chicago, New York, Detroit, and Indianapolis, striking new freestanding buildings were erected to house their expanding public libraries. Also in this context, Beaux Arts and historical styles were part of an impressive monumentality. The Bos-

ton Public Library was built between 1887 and 1895 as a “people’s palace” by the architects McKim, Mead & White. The facade and parts of the plan were clearly inspired by the Bibliotheque Ste. Genevieve, which in turn had been inspired by Boullée’s projects. This inspiration was evident in both the exterior and the interior: in both the main facade and in the placing of the large reading room, Bates Hall, on the first floor.

In the Boston Public Library, book ordering was automated, with the orders delivered by pneumatic post to the stacks, and books transported in small wagons by miniature electric railway. The library system, moreover, had ten ancillary branches and a total of seventeen lending facilities. The Boston Public Library was thus immensely complex in its combination of historical models and the latest contemporary library technology; of democratic access and aristocratic decoration; of scholarly and popular literature; and of active learning and artistic enjoyment.

This expansion of library buildings was followed, reflected, and further inspired by a similarly expanding new literature and discourse, in the form of both books and articles in architectural and library journals, often published by the newly formed professional organizations. This discourse was directed more toward the building and design process than to Naudé’s principles and was more practical than Boullée’s *Treatise*. Among the pioneering introductions to library design were the handbooks by F. J. Burgoyne and Charles C. Soule.

Burgoyne’s richly illustrated handbook from 1897, *Library Construction: Architecture, Fittings and Furniture*, contains both planning principles and examples of libraries, interiors, and plans. In the book we find a detailed account of contemporary library construction and library technology: funicular railways for books, book lifts, rolling bookshelves, various types of indicators, different kinds of holders for journals and newspapers, and a vacuum cleaner designed specifically for library purposes (Burgoyne, 1897, pp. 95–127 & pp. 250–251). This fascination with apparatus in the library world arose from the need to supply evermore books to evermore users, and it corresponded, on a smaller scale, to the period’s fascination with other great feats of engineering such as bridges and railways. In the same book, however, Burgoyne criticizes the over-sumptuous decoration of Boston’s library building, warning that excessive ornamentation could impede the reader’s ability to concentrate. In this connection Burgoyne drew a distinction between embellishments appropriate to libraries and those suitable for museums and galleries. Libraries were designed for study rather than experience (Burgoyne, 1897, pp. 256–257).

In 1902, Charles Soule’s small pamphlet *Library Rooms and Buildings* was published by the American Library Association. This pamphlet was far from being a manifesto, but it did contain a great deal of practical advice for starting, or later building, a library under modest conditions: “In

starting a small library, a separate building is not necessary. A single room will often answer all purposes at first. . . . Very little furniture is needed for a start. Any kind of desk for records, one or two tables for magazines and newspapers, a few common chairs, lamps for evening use, and such simple shelving as any carpenter can construct, are all that will be needed” (Soule, 1902, p. 3).

Soule’s small pamphlet was outdone a decade later by his extensive book *How to Plan a Library Building for Library Work* (1912). This book is a thorough and specialized presentation of types of libraries, planning and building principles, personnel, departments, and rooms. Also, standards for library planning are introduced (p. 373). The prelude of the book defines the character of the library building: “A library is a prominent public building as practical and technical as a schoolhouse. . . . Build it for use, not show; for now, nor for ever; Tastefully, tactfully, thriftily, thoroughly.” Much attention is paid to the relationship between architects and librarians with their different professional viewpoints. Soule calls for an “intelligent alliance and friendship of mutual respect between librarians and architects” (p. 18). The modernity of library building is stressed by the reference to warehouses and office buildings: “May not the structure that makes our modern stores so light, cheerful and airy, be in some satisfactory way applied to our large libraries?” (p. 18).

Both Burgoyne and Soule—like Naudé—followed the principle “Use before beauty” (Soule, 1912, p. 19), almost as a parallel to Louis Sullivan’s statement: “Form follows function.” Soule stressed the importance of library work in the title of his book. However, he also emphasized that the library building should be “noble” and “prominent.” You could say that this balance is characteristic of the development of the modern library building.

THE OPEN ACCESS MODEL

The introduction of “open shelves” or “open access” around the turn of the last century was an important and much-discussed prerequisite for the development of modern public libraries (Black, 1994). An important conception was the library’s central role in education, enlightenment, and democracy. The ideal was that library materials should be available to all, regardless of class, race, origin, language, or education. These libraries were often founded and funded by private patrons of culture and education. Open access heralded a whole new form of library space, but gave rise to great debate and was usually introduced in several phases.

In the United States, open shelves in the modern sense were introduced from 1890 onward, with the libraries in Boston and Cleveland leading the way, while in England they appeared for the first time in 1894 at the Clerkenwell Public Library in north London. In Denmark they were introduced in 1902 with the establishment of the State Library in Aarhus,

where the reading room was equipped with a special lending department. In 1909 a 1:1 scale model library that was presented at a national exhibition in Aarhus and was intended as a prototype for future library buildings was equipped with open shelves; the library was built in conjunction with a public meeting hall and served as a working model during the exhibition period (more about this later). In England, only 70 out of 550 public libraries had open shelves in 1910, but from 1916 onward, open access became the norm. Thus the development was almost synchronous in North America, England, and Scandinavia.

Internationally, the introduction of open access gave rise to heated debate. Advocates of the new system emphasized that it was a democratic, public-minded initiative that allowed borrowers to choose books on a more informed basis. Opponents put forward a great many arguments: there was a greater risk of theft or of books being misplaced and becoming impossible to relocate. They also criticized lazy librarians who, it was anticipated, would be inclined to stay at their desks and not bother to help borrowers. There was a danger indeed that librarians would become redundant and perhaps be paid lower wages. There was a debate as to whether open shelves were more educational, since they allowed borrowers to orient themselves (though only among books that were not lent out) or whether, on the contrary, the closed stacks system was better, because it forced borrowers to search systematically in the catalogs (Dahlkild, 2006, pp. 172–180).

This discussion was accompanied by a number of compromises between open and closed shelves, usually in the form of gates at the counter or shelves protected by wire netting. Special book “cages” with wire netting were developed that allowed the borrowers to see the backs of the books displayed with the relevant number or short text. In the Deichman Library in Oslo, a special “cage” was set up in the youth department, so that children and young people could point out to the librarian the books stacked behind the net. The Town Hall library in Copenhagen (built 1905), with shelves protected by netting, offers a good example of the transitional methods adopted at the time. The introduction of open shelves was accompanied by a panoptic organization of the library, in which the librarian was placed at a counter at the center of a fan-shaped arrangement of bookshelves. This enabled the librarian to survey the entire room so that she/he could assist borrowers in their searches and counter any problems with misplaced books or theft. The panoptic arrangement of libraries ended in the 1920s (Dahlkild, 2006, pp. 193–202).

To serve the growing library readership efficiently, a modern counter was introduced that became the centerpiece of the panoptic arrangement of furniture. This type of counter incorporated a number of practical functions relating to lending and correspondence and could be used in many types of premises, serving the borrowers as they passed to and from

the open shelves. Gradually it became necessary to extend the library's initially rather small office area, relieving some of the pressure on the many functions of the counter.

Open access was thus an important part of the creation of a new library space in which the users could walk freely about the premises, browse among the shelves, and chat with one another. The parallel to bookshops was obvious, where commodities and books were presented attractively and accessibly to the customers. The users could find and read the books they were looking for, but they could also stumble on something unexpected. These possibilities were important aspects of a new type of library and a new library identity that the room itself both expressed and contributed to create. This new openness would later be related to the open, flowing, and transparent space of modernist architecture. Borrowers were no longer bound to present their wish lists to a librarian behind a closed counter. Borrowing was simplified by replacing long forms with the simple method of stamping a loan card.

THE LIBRARY AS A TEMPLE OF KNOWLEDGE: THE CARNEGIE LIBRARY TYPE

With the open shelf system, new library technology, and the standardization of library routines for cataloging, classifying, and lending books, an international model was created that had a crucial influence on the development of the physical design of public libraries in the first half of the twentieth century. An important aspect of this library model was the almost standard division into an adults' lending library, a reading room, and a children's lending library/reading room, and the corresponding tendency of professional specialization of librarians.

A special type of this library model were the Carnegie libraries. The Scottish-American steel magnate Andrew Carnegie funded no fewer than 2,509 libraries throughout the English-speaking world as an early example of globalization: 1,681 in the United States; 125 in Canada; 660 in England and Ireland; 18 in New Zealand; 4 in Australia; 12 in South Africa; 6 in the Caribbean; and 1 each in the Seychelles, Mauritius, and Fiji (Grimes, 1998, p. 9). These libraries, built as miniature temples of knowledge, belong to a distinctive category of their own. To begin with, Carnegie supported a plethora of charitable initiatives. In his essay "The Best Fields for Philanthropy" (published in the *North American Review* in 1889), he listed seven fields: universities, libraries, hospitals, public parks, meeting and concert halls, public baths, and churches. But the best gift that could be made to a local community, he argued, was a public library. Later he concentrated his donations to libraries.

Both in terms of architecture and interior design, the many Carnegie libraries—often quite small, yet monumental and temple-like in appearance—became highly influential internationally, offering model planning so-

lutions for libraries of various types and sizes. Andrew Carnegie's personal secretary James Bertram drew up a set of guidelines in the growing versions of his pamphlet *Notes on the Erection of Library Buildings* [*sic*] (1911). Here he set out six practical planning solutions for libraries of various sizes, which with suitable advice could be freely adapted by local architects to meet local needs. A feature common to all these plans was a flight of steps at the center of the building, leading up to an elevated ground floor with a reading room on one side, an adult library with a centrally placed counter in the middle, and a children's library on the other side. Together, the steps and columns emphasized the loftiness of knowledge.

It is a paradox that the Carnegie library type has almost become synonymous with "the temple of knowledge." Both Andrew Carnegie and his secretary James Bertram were opponents of excessive monumentality and wasted space, and stressed the economical layout of the building. Yet the "attempt to secure a Greek temple, or modification of it" (Koch, 1917, p. 211) was in itself wasteful of space, of course. Carnegie and Bertram urged that the layout of the building, though restricted by the demands of classical symmetry, should be practical and economical. It should be devoted exclusively to (a) housing of books and handing them out; (b) comfortable accommodation for reading by adults and children; (c) a lecture room not adding disproportionately to the cost of the building; and (d) necessary accommodation such as heating. "Experience seems to show that the best results for a small general library is obtained by adopting the one-story and high basement type of building. . . . The rear and side windows may be kept seven feet from the floor, permitting continuous wall space for shelving" (Koch, 1917, p. 211). The circular notes were not a manifesto, but practical guidelines. Neither Carnegie nor Bertram were interested in architectural styles. The classical temple was common, but other styles were also in use.

The ideal form of the "temple of knowledge," "temple of enlightenment," or "temple of books" involved a symmetrical ground plan, shaped like a butterfly (as seen, for example, in the early twentieth century Williamsburgh Branch, Brooklyn Public Library) (see fig. 2). The entrance and the adult lending library represented the body in the central axis, and the adult reading room and children's library formed the wings. Often the middle axis served to connect the library building with its surroundings. This classical monumentality was further underscored by the high steps that led up to the entrance, often with columns. The symmetrical design continued into the front hall and on into the adult lending library, culminating in the counter or librarian's desk, which commanded a view of the whole room. The main catalog with its record of the library's holdings was likewise placed on the middle axis, and frequently a clock embellished the center of the end wall as well. These features symbolized order—in both time and space—in the library's comprehensive collec-

tions. The ground plan of the building, its interior design and furnishings, and the arrangement of the books all served to express objectivity, stability, and solidity of this small version of the universal library.

The "trinity" formed by the division into adult lending library, reading room, and children's library became the archetypal plan of the temple of knowledge. From outside, the ground plan and the building itself could be seen a secularized temple of enlightenment and the interior a secularized basilica, based on the model of the medieval church with a nave and aisles. Thus the temple of knowledge was at the same time sacred and secular, both in terms of architecture and interior design. Moreover, the three types of library rooms were distinct in terms of function, codes of behavior of the users, and the identity and mentality of the librarians who served in them. The distinction between these three types of space was, however, different in different library types and typically stronger in Europe than in America.

The adult lending library was the central room of the public library. It usually took the form of a symmetrical gallery of books with high windows or top lighting. This arrangement emphasized the loftiness of the room and the many meanings of light. With its open shelves, the adult lending library represented the library's intention to reach out to the great reading public, to whom it offered professional guidance and modern methods of lending. The borrowers could search and browse freely among the shelves, and it was possible to converse normally.

The reading room was the place for silence, concentration, reflection, and enlightenment, and often included special rooms for study. It was also associated with reference work, which was an important part of the identity of the library profession. With rules enjoining users to converse in low voices and move around quietly, it was also the room with the most regulated behavior. It contained a collection of practical, informative reference books designed for purposeful study. Newspapers could also be read here if there was no special newspaper room. Newspaper reading harked back to the recreational reading rooms, often designed to be social places where the public could take shelter in the warmth. Although newspapers played an important role in the political arena, the perusal of newspapers did not enjoy the same high status in the library world at the time, with its lofty ideology of enlightenment, as did the use of reference books. Moreover, newspaper reading could disturb the peace and concentration of the reading room. Often newspapers were stored in tall reading stands, which precluded users from sitting down, getting comfortable, and wiling away the hours.

Finally, the children's library was oriented toward the reading, education, and enlightenment of the coming generation. Initially, libraries simply provided special shelves with books for children. Later, special children's

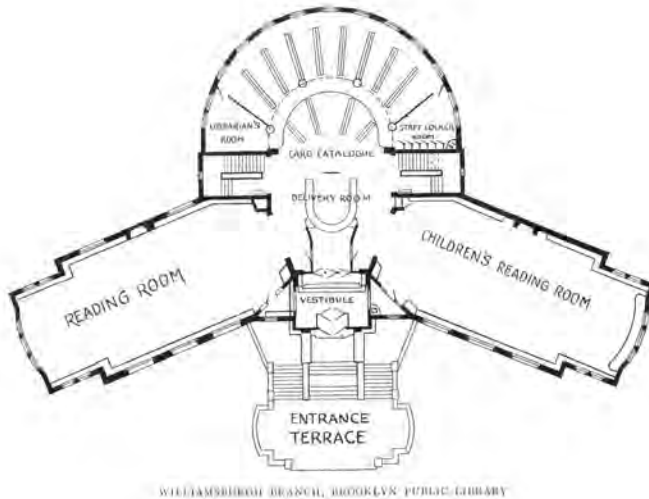


Figure 2. Plan of the Carnegie Williamsburgh Branch Library, Brooklyn Public Library (1905) with “butterfly” plan and panoptic lending room. Source: T. W. Koch, *A Book of Carnegie Libraries* (1917).

rooms were introduced, which in larger libraries were further divided into a lending department and a reading room. Although the children’s library was the liveliest and freest room, it was furnished in the same style as the adult library, albeit on a smaller scale. However, the children’s library was often specially decorated and in some cases equipped with a storytelling space for reading aloud.

Among the qualities of the temples of knowledge were their recognizability in community and urban contexts, regularity, clear functional division, spaciousness, and airy premises with good high ceilings. It is somewhat paradoxical, however, that the public library as a supremely democratic institution should become associated with a relatively closed and pompous style of building. Already in 1917, Theodore W. Koch had published his comprehensive survey of Carnegie libraries, *A Book of Carnegie Libraries*, and their almost iconic status has been stressed in several later monographs (e.g., Black, Pepper, & Bagshaw, 2009; Bobinski, 1969; Grimes, 1998; Jones, 1996; Van Slyck, 1995). The monumentality of libraries in the United States was documented by the *in itself* monumental book *The American Public Library Building* (1941), by Wheeler and Githens.

THE MODEL LIBRARY OF 1909

A unique example of a 1:1 scale model library in the context of an architectural exhibition was the public library and meeting hall, erected as part of the “railway town” or “village exhibition,” at the National Exhibition in Aarhus in Denmark in 1909 (fig. 3). Part of the exhibition was built as an ideal small town with ideal buildings, reflecting ideal everyday life, as a model for building new communities. Such architectural exhibitions were not uncommon at the time in international and world fairs. Dwellings, schools, and churches were presented as architectural ideal types, often constructed by timber companies, but it was unique that a library was included as an important building. Regarding libraries, an ideal collection of books with ideal cataloging was presented at the World Exhibition in Chicago in 1893, but apparently without special architectural design (Wadsworth and Wiegand, forthcoming).

The library at the Aarhus National Exhibition was built to serve as a working model library, where people could sit and read and take books with them into the small library garden. The collection of books was especially selected and was given a special classification; it was considered ideal for this type of small public library. As such it was part of a joint architectural and cultural initiative aimed at inspiring improvements in the Nordic architectural tradition as well as promoting the establishment of new libraries and the reading of good books.

The model library was exhaustively described by the leading librarian, Vilhelm Grundtvig, in his green pamphlet, *Stationsbyens Folkebibliotek* (The Railway Town Public Library), which included detailed information about library design and organization. Grundtvig began by emphasizing that the library had “open shelves,” so that “anyone can search for and take out what he wants” (1909, p. 3). It was arranged as a one-room library, and its homely design was underscored by the fact that there was a desk, but no counter. The walls were decorated with portraits of Danish writers, literary scenes, and maps.

Grundtvig emphasized that “a library and reading room is not just a room for books, but first and foremost a place where people seek instruction, entertainment or relaxation after their day’s work”; it was therefore important that both the premises and the furniture should be kept in “simple, clean and harmonious lines and colours. . . . It is fine if it is also possible to introduce pictures and other (good) art, flowers and suchlike to create a cozy and homely impression” (1909, p. 8). The library was built alongside two meeting halls, and the whole building thus united an open meeting place with the library’s open shelves.

The model library was visited by guests of the exhibition, who could sit down in the library or read a book in the library garden. It was also visited by international library professionals, and it was presented in several Scandinavian architectural and library journals. A number of public



Figure 3. The exhibition library, with garden, on the main street of the village exhibition in Aarhus (1909). Source: J. Bergsøe (ed.), *Beretning om Landsudstillingen i Aarhus 1909* (1913).

libraries were erected in Denmark in the following years, inspired by this model library (Dahlkild, 2002). Not only was the 1:1 scale original, but also the lack of monumentality, the homely character, the relation to everyday life in terms of social interaction, and its combination of “enlightenment” and “experience” anticipated the evolution of the library as “cultural center.”

AVANT-GARDE PROJECTS

While the Aarhus model library with meeting hall was a local, small-scale project, other quite ambitious and universal projects developed in the following years. In 1910 the Mundaneum project was founded by the two Belgian lawyers Paul Otlet and Henri la Fontaine. The intention was to collect all knowledge from the entire world and classify it according to the Universal Decimal Classification System. An international center should organize collections and indexes of worldwide importance: the International Museum, the International Library, the International Bibliographic Catalogue, and the Universal Documentary Archive. These collections were conceived as parts of one universal body of documentation. Together they would constitute an encyclopedic survey of human knowledge

as an enormous intellectual warehouse of books, documents, catalogs, and scientific objects. Classification and cataloging should be standardized and an archive with millions of index cards developed. Otlet had the vision that one day all the information collected could be accessed by people from their own homes. The center started in Brussels, but by the Second World War had been virtually abandoned. In 1929 Otlet commissioned Le Corbusier to design a World City in Geneva to house the Mundaneum project at its heart. Both Otlet and Le Corbusier made sketches. Le Corbusier designed a tower of knowledge as a "city of intellect," but it was never built. (Otlet's idea to design a utopian city dedicated to international institutions was largely inspired by the contemporary publication in 1913, by the Norwegian-American sculptor Hendrik Christian Andersen and French architect Ernest Hebrard, of an impressive series of Beaux-Arts plans for a World Centre of Communication) (Rayward, 1975).

After the Russian Revolution in 1917, libraries were seen as an important prerequisite for creating a new socialist society in the Soviet Union. The Russian constructivist architects contributed to a number of projects in this regard, ranging from utopian cultural centers built in soaring avant-garde style to practical proposals for the design of "workers' clubs" that were conceived as breeding grounds for the new culture. For the Soviet Union's exhibition pavilion at the World Exhibition in Paris in 1925, the artist and designer Alexander Rodchenko set up a model of such a workers' club. The idea behind the project was that after a long day's work, the worker could relax with some politically enlightened reading, play chess, and have good fellowship in simple proletarian surroundings without bourgeois carpets, polished furniture, or curtains. The club was furnished extremely austerely with a long narrow table and chairs, shelves for journals and magazines, a chess table with seating for players, a blackboard, and photographs of Lenin. One wall could be used for slide shows. Rodchenko's proposal was never put into practice and never exhibited in the Soviet Union (Margolin, 1997, pp. 90–94).

One of the most experimental library projects in the 1920s was Ivan Leonidov's model from 1927 for a Lenin Library, or Lenin Institute of Librarianship, in Moscow, which, together with Tatlin's tower and El Lissitzky's Proun room, became one of the icons of Russian constructivism (fig. 4). The institute was conceived as the Soviet Union's collective information center with space for fifteen million books, five reading rooms with seating capacity for 500–1,000 people, and an institute of librarianship. The project also included a balloon-shaped planetarium and flexible auditoria. The library would be automated, with systems for transporting books horizontally and vertically. As a building complex it was composed of various soaring geometrical shapes with plenty of potential for expansion. The materials to be used were glass, steel, and concrete, and the library would be connected with the city via the metro and aerodrome, and with

the world at large via a large-scale radio station. It was an interesting novelty to conjoin a working library with an institute of librarianship. Leonidov's "information architecture" without doubt constituted the most advanced library project in the interwar period. Leonidov also developed open plans for cultural centers and "clubs of a new social type," in which film and radio would function as "living newspapers." His projects were criticized for being too utopian, and he was charged with "left deviationism." Leonidov's advanced projects, in which the library was seen as a universal communications center in experimental information architecture of iron and glass constructions, anticipated present challenges to the traditional library space (Gozak & Leonidov, 1988, pp. 16, 40–67).

In 1928–39 the Lenin Library in Moscow, designed by Shchuko and Gelfreikh, was erected as the national library of the Soviet Union. This was a far more traditional and classical building than that envisaged in Leonidov's project. The entrance was constructed with pillars in polished black granite bearing a frieze of workers and peasants. The library interior, which served traditional library functions, was designed in the same historic style as the Moscow metro stations of the same period, with polished stone floors, pillars, circular chandeliers, and coffered ceilings (Ryabushin & Smolina, 1992, pp. 112–115).

If the Mundaneum was a forerunner of the Internet and Wikipedia, Leonidov's designs can be considered to have foreseen the information society and "the global village." Early in the twentieth century, these projects were expanding the definition of libraries beyond physical space. They also had connections back to the French Encyclopedia and Boullée's utopian projects.

THE SCANDINAVIAN STYLE

During the interwar years, a new Scandinavian library style arose, reflecting the growth of the welfare state, postwar cultural movements, and the modern architecture of the time. It was less monumental and more oriented toward ordinary everyday life than the "temple of knowledge." The hallmark of the Scandinavian model was its combination of modernistic experiment with traditional library design.

International modernism was first introduced into library architecture in 1935 by Alvar Aalto's library in Viborg (Viipuri), Finland, which at that time was Finland's second largest city. Aalto's first draft was clearly inspired by Asplund's City Library in Stockholm. The building consisted of white cubic shapes with a large entrance in glass, but also had inner organic features that anticipated Aalto's later buildings. The library was set in a park and Aalto envisaged the white walls being brought alive both in summer and winter by the shadows of the park's trees. The library was divided into split-level blocks and plateaus with various functions. From the entrance one went up to the lending library, where the counter stood

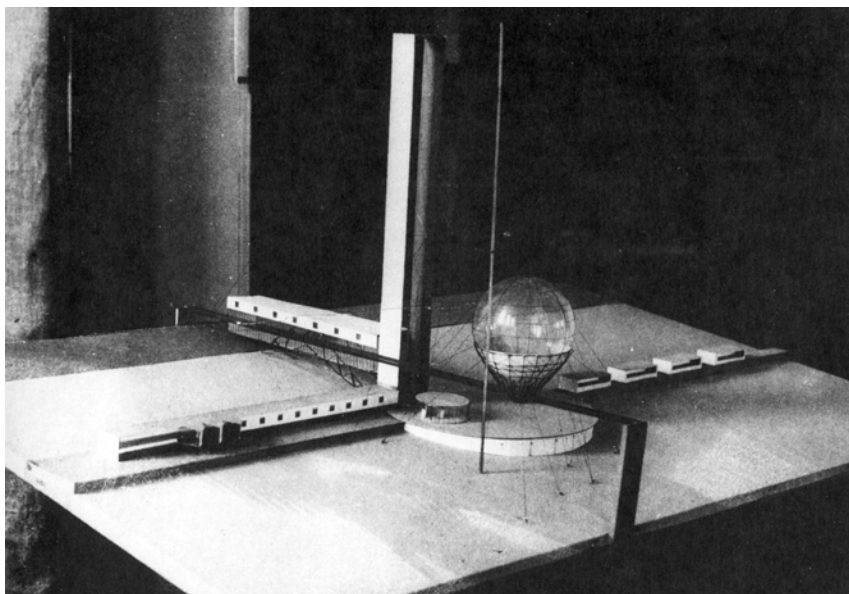


Figure 4. Leonidov's project (1927) with library, auditorium, and radio station. Source: Wikimedia Commons.

as the culminating high point, modeled on the Finnish landscape, at the end of a symmetrical staircase. The sunken part of the lending library offered a new interpretation of the classic gallery library. Light wood was used extensively, and the wooden ceiling in the lecture hall was organically folded. The idea was to distribute the sound in the long auditorium and thus make the room more democratic, with everyone being able to hear everyone else. Aalto later designed several other libraries (Fröberg, 1998, pp. 202–207; Weston, 1995, pp. 62–69).

Nyborg Public Library was one of the last new libraries to be built in Denmark in the interwar period, and with its combination of tradition and modernity, it represented in several ways a synthesis of Scandinavian cultural politics and library architecture of the period. The library was designed by Erik Møller and Flemming Lassen and was completed in 1939 (fig. 5). It consisted of two red-brick wings, joined by a low glass passage, which formed the entrance to the library and its garden, resembling a greenhouse that united the exterior with the interior. The simple entrance was markedly different from the grand steps and high doors that characterized the temple of knowledge. The unpretentious and modest red-brick buildings in a garden setting, with canals, lawns, and groups of trees, reflected “the spirit of the place” (Dahlkild, 2009).

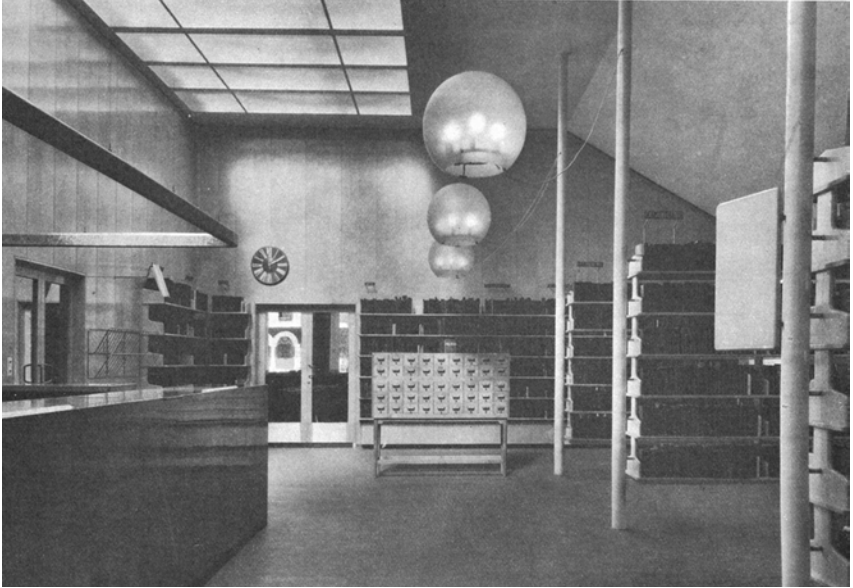


Figure 5. Interior of Nyborg Public Library (1939) with light maple panels. Source: Carl Jørgensen, *Danske Biblioteksbygninger* (1946).

The library's various functions were carefully designed with regard to both overall unity and the needs of the individual user. The interior was designed especially for Nyborg Public Library with the assistance of furniture designer Hans J. Wegner. Chairs, tables, bookshelves, and wall panels were made of sycamore wood. The freestanding shelves projected out from the walls, allowing a view through the windows to the town's houses and canals.

This open, user-friendly architecture and design brought the library closer to everyday life. With its accommodating form, it was a break with the monumental tradition of the time and became an example of a new type of library architecture where easy access, freedom of movement, spacious rooms, and the use of light wooden furniture were expressions of democratization and public enlightenment. The Scandinavian style with its open, informal, and familiar-looking library buildings, often of high architectonic quality, became an inspiration for library architecture in the following decades. After the war it was influenced by the minimalism of "the international style" of modern architecture. In a survey of international library architecture from 1970, Michael Brawne writes:

A good deal of present day contribution originated in Scandinavia both as regards library services and library buildings. Both have held an important position there for a considerable period and there was

a precedent for innovation. . . . But perhaps most important of all has been the Scandinavian contribution towards making libraries both important and every day places in the community and giving this notion an acceptable architectural expression. (1970, p. 22)

BROAD, LOW, FLAT-ROOFED: MODERNIST ARCHITECTURE AND THE MODULAR LIBRARY

One day success is achieved. Suddenly a new library is there—broad, low, flat-roofed—standing as if it had sprung up in the night, all ready to receive its readers. A cultural centre of local life, a source and focus at one and the same time. Literature and art are bound together. . . . The building—of steel and cement, wood and glass—is in itself a manifestation of the architecture of its time. (Koch-Olsen, 1967, p. 94)

These words, from Koch-Olsen's optimistic *Public Libraries in Denmark* (1967), characterized the spirit of the time, and the idea of the library as a modern architectural and social "Gesamtkunstwerk," integrating perfectly intentions and physical form. The vision of openness and democratization of cultural politics is clear also in Koch-Olsen's description of interiors:

There are wide views to trees, houses and the sky outside, and the sunshine plays on glass walls, the light-coloured shelving and the gaily coloured curtains. . . . All departments are actively associated with another. There are no obstructing walls, no troublesome stairs, no closed doors. The visitor is coaxed from room to room and continually finds new possibilities. The man who comes to get a novel for his wife drops into the newspaper room and spends a newsy quarter of an hour with a paper he is not a regular reader of. . . . All take possession of the library and feel that its books, magazines and papers belong to them. (1967, pp. 48–49)

These quotations are characteristic of the optimistic mood associated with the new type of open postwar library building. After the Second World War, library buildings expanded both in numbers and size, influenced by the ideas of modernist architecture and rational planning of space and functions. Modernism influenced library architecture in the direction of the sober and down-to-earth: "No columns, no pillars, no arches, no ornament, no contrived monumentality" as the architectural historian Nikolaus Pevsner put it in his *History of Building Types* (Pevsner, 1976, p. 110). There was a movement toward library environments that were "light, spacious and informal." Library space became even more open and transparent with glass walls and minimalistic interior design. In urban planning these modern libraries became part of the new cultural centers of the expanding suburban landscape.

Library architecture became more open, but also more flexible and modular. It combined the library ideas of open access with the open,

floating, and transparent space of modern architecture, and at the same time it combined a rational planning model of modules with serial aesthetics. A consequence of this new rationality in library planning was the development of modular systems with structural columns, reprising the ideas of the Bauhaus School and other modern designers. These systems made massive load-bearing walls unnecessary, and at the same time they made flexible interior functions and furnishings possible with transparency both inside and outside the library. Walls were temporary and could be removed and taken away, according to changing needs and functions. The idea of the module was twofold: to ensure that the bookshelves could be located anywhere in the library and to position the structural columns so that they would not interfere with the spacing of bookshelves, thus providing both flexibility and functionality. The keywords of library planning in the decades after the war became flexibility, functionality, and modularity.

Much attention was paid to standards of space and furnishing, and needs of space for staff and users were defined. Library standards became an important part of the contemporary library discourse, both in relation to technical solutions and expanding services. As seminar-style teaching as well as creative and cultural activities became more common, it seemed important to merge study space with book storage space in libraries with educational and cultural purposes. The ideals of library service and design was the creation of inviting and pleasant as well as efficient interiors, combined with well-organized and coordinated architectural elements.

A fine example of these ideas of rational library planning is the book *Public Library Buildings: Standards and Type Plans for Library Premises in Areas with Populations of between 5,000 and 25,000* (1971), edited by Sven Plovgaard and published by the Library Association in London. The book contains a thorough presentation of the principles of flexible, modular, and systematic planning with standards for rooms and sections in different library types with different sizes of population and for library premises such as space requirements, shelf measurements, distances between shelves, passage spaces, and office facilities. The chapter titled "The True Library Building" includes the following statements: "It [the modular approach] gives the best chance of inner flexibility, with freedom to plan the premises in accordance with their purpose; generally guarantees the library the necessary outer flexibility with a view to expansion at a later stage. . . . By using the modular principle in detailed planning and observing the requirements of flexibility, it will . . . function adequately for 35–40 years or even longer" (pp. 81–82).

Other important books from this period are Galvin and Van Buren's *The Small Library Building* (1959), published by UNESCO; Rolf Myller's *The Design of the Small Public Library* (1966), with drawings, typical of their time; and Michael Brawne's international overview, *Libraries: Architecture*

and Equipment (1970), which contains documentation with examples and illustrations. In 1982, *Library Trends* published an issue on standards (Weech, 1982).

In a paradigmatic sense, the modular library with its rationality of space and logistics was the fulfillment of modernity. It was flexible, open, and democratic, and the library profession, which championed it, had become highly developed. However, it could be argued that in the modern modular library some of the original “library spirit” was absent. While the ideals were very attractive and progressive, the buildings themselves—with consistent ceiling heights, large floor-plates, and artificial lighting—tended to become monotonous. Colors were often shades of grey, olive green, or quiet yellow. Rectangular buildings and furnishings became typical, with the book as “the real library module.” Soon the development of new media and digitalization of information would provide a new challenge to the logistics of the physical library.

However, there are also many artistic examples of modern library style. A minimalistic version of the modular library in glass and steel is the the Martin Luther King Jr. Memorial Library in Washington DC, designed by Ludwig Mies van der Rohe and completed in 1972. Another special and elegant expression that is only modular in its architectural expression is the Beinecke Rare Book & Manuscript Library (1963) at Yale, designed by Gordon Bunshaft from Skidmore, Owings, and Merrill. A six-story above-ground tower of book stacks is surrounded by a rectangular windowless building with walls made of a translucent marble, which transmit subdued lighting and provide protection of the historical collections from direct light. The marble wall makes the building look quite different from the outside and from the inside (Fröberg, 1998, pp. 223–224).

An almost futuristic example of library architecture from this period is the Marin County Civic Center in San Rafael, California, from 1960, designed by Frank Lloyd Wright and containing public administration, library, and auditorium. The grand arches of tunnel size make the center look both classic and modern. Worth mentioning in this context is also the extension of the Boston Public Library (1967–71) by Philip Johnson, built in the same pink granite as the historic building and repeating the architectural elements in simple and abstract forms. The extension houses the circulating parts of the library. With its massive walls it is often compared to a mausoleum. The “half-moon” windows and “rounded columns” are almost postmodern. The Exeter Library in New Hampshire by Louis I. Kahn (1967–72) has some of the same monumentality with square form and brick piers. In the inner space, the reading room is a central hall encircled by balconies with books and study alcoves. The reading room is overlooked through giant circular openings in the interior screen walls. The light comes from above through a diagonal cross of concrete. All constructions and materials are visible (Fröberg, 1998, pp. 219–222).

In Berlin, the State Library (1967–78) by Hans Scharoun represents the period of late modern architecture, in contrast to that of modular thinking. On the contrary, the State Library and the nearby Berlin Philharmonic Hall, also by Scharoun, are examples of modern expressionistic architecture, going back to alpine and crystalline architectural visions from Scharoun's youth in the early decades of the century, and share the same "landmark" characteristics as some of the cultural buildings from the following decades. The exteriors of both buildings are covered in yellow aluminum plates. Inside the State Library, the reading room is located on the third floor, with triple floor height of nine meters. Hanging mezzanines with sharp edges are part of the inner complex constructions. Books are delivered from a closed-stack system by request (Fröberg, 1998, pp. 228–231).

In 1987, *Library Trends* published an issue devoted to library buildings, edited by Anders C. Dahlgren, which surveyed contemporary trends and presented examples of different library types, specific topics, and the library building of tomorrow. One might describe the assembled viewpoints as "late modern." The paradigm is still supportive of the modular library, but not without qualification. Library consultant Raymond M. Holt emphasized the breakthrough of modular libraries: "In the intervening years, the modular building has become commonplace. The trend in this direction is now a reality for all except the smallest library buildings"; however, he also opined that "structural factors and the cost of structural members seem to limit how large a module may be while remaining cost effective" (1987, p. 275). Computer technology and environmental factors are new topics, and in the last article about the future library, Richard L. Waters (1987) raises awareness of coming problems.

THE CHALLENGE

Around the turn of the millennium, new tendencies in library architecture and design became visible. The development of new media and digital information technology has challenged the traditional library with the notion of the "the library without walls." Strangely, this has not weakened, but has apparently heightened, international interest in the library as a physical space. New possibilities of digital design have made possible audacious and spectacular architectural experiments.

Two different trends may be defined: a growing interest in using library and other cultural and central buildings as "icons" and "landmarks," often related to theories of "experience economy" (Pine & Gilmore, 1999), and a growing interest in relating libraries to the "life world" or "civil society," often inspired by the concept of the "third place" (Oldenburg, 1989). Although the thinking behind these trends may differ, both show a growing interest in the library as part of urban planning and urban space and making library interiors as inviting as possible with multiple activi-

ties and attractive furnishing in open spaces. Often libraries are joining other cultural, recreational, and social activities in multimedia centers, in sport centers, together with museums or in community houses. The post-modern architectural expressions, interiors, media collections, and organization of these highly visible buildings may vary, but typically libraries develop as multiuse public spaces, where collections of books and other materials are important and are connected to educational, cultural, and social activities. Accordingly, there is a growing interest in environmental and ecological issues, as illustrated in Brian Edwards' article in this volume and in his book *Libraries and Learning Resource Centres* (2009, pp. 77–90). However, ecological intentions are not always reflected in the actual library buildings.

A series of grand metropolitan libraries were built around the millennium (Mattern, 2007). These new “downtown libraries,” as well as museums and other cultural buildings, have become a parameter in the competition between great cities of branding themselves and attracting the creative and wealthier classes. However, the intentions are also to revitalize the inner districts of the metropolitan areas. Whereas the decades of the modular library were dominated by ideals of systematic planning, the millennium period was characterized by rapidly changing functions and experiments. The architectural styles range from classical symmetrical buildings with columns and decoration, in the tradition of the historic Carnegie libraries, such as the new libraries in Chicago and Nashville; to the deconstructed coliseum of the library in Vancouver, and the “iceberg” of glass and steel that forms the library in Seattle.

This change is reflected by the changing guidelines. Whereas Plovgaard (1971) stressed the need for standards in library planning, the colorful book *Library Space: Inspiration for Buildings and Design*, published by the Danish Library Association in 2009, has other ideals: “The library is changing from a room dominated by shelving and books to a meeting place for culture, learning and insight” (Niegaard, Lauridsen, & Schulz, p. 3). The book has no precise advice or standards, but “provides practical information, tips and useful tools for a local building process” (p. 3). The keywords of flexibility, functionality, and modularity have been replaced by the watchwords of quality, flexibility, and creativity (p. 3). Theoretical insights into the development of library space are presented in *The Library as Place* (Buschman & Leckie, 2007).

Libraries can also be defined as important “third places” in everyday life between home and work. The concept of “third places” is developed by the American sociologist Ray Oldenburg and characterized in his book *The Great Good Place* (Oldenburg, 1989). Oldenburg suggests that cafés, coffee shops, bookstores, bars, hair salons, and other “hangouts” at the heart of a community” are important for the vitality of civil society and the

foundation of a functioning democracy. They promote social equality by leveling the status of guests, providing informal contacts and discussions, creating habits of public association, and supporting both individuals and communities, and they counteract the isolation of the suburban societies. Libraries are not included in the original concept of “the third place,” but for many library planners it has become an ideal for libraries, a touchstone that legitimizes their existence.

There is a growing interest in seeing libraries as public places, part of urban space and urban vitality; similarities are identified between browsing in the library and browsing in streets, squares, and shops of the cityscape (Greenhalgh, Landry, & Worpole, 1995, p. 75). The significance of the library as a place of retreat and reflection is emphasized. The British Comedia Group has developed this critical thinking and has evolved the concept of “libraryness.” They explain the meaning of this term thus:

The term “public space” is a description of those places—libraries, parks, streets, squares, and other covered and open spaces—which people can use as a right, for free, and which are in many ways felt to be held in common ownership and open to all. As the vitality of streets and street cultures has been killed by cars, as shopping streets have been displaced by private covered malls, as museums and other once free venues have been enforced to impose entrance charges, so the opportunities to wander, to browse, to stand and chat, to sit and watch the world go by become squeezed and constrained. This, we feel, is one of the pre-eminent values of the public library, as neutral space, as democratic, non-sectarian territory. (Greenhalgh, Landry, & Worpole, 1995, p. 12)

The concepts of “open access,” “open space,” and “public place” have thus become even more important in library architecture. A possibility for future library planning is not only to find a place for the library in an urban context, but also to develop the inner spatial elements of the library as kinds of urban spaces, with squares, streets, and districts, with different design and collection identities, depending on the different character of different media: some popular and for all; some for special groups; concentrations of books as in an attractive antiquarian bookshop; open spaces with new media; active meeting places with cultural and social activities; and quiet zones of concentration and reflection.

The architectural landmarks of the millennium are often linked to the “Bilbao Effect,” named after the Guggenheim Museum in Bilbao, Spain, where the iconic museum building and its spectacular exhibitions have created new economic development and given new life to a worn-down, previously industrial region and turned it into a site for international tourism. In his book *The Iconic Building* (2005), Charles Jencks has discussed the “Bilbao Effect” as part of the changes in international architecture around the millennium. He claims that a new kind of architectural icon

and a new generation of celebrity architects have taken over the scene. This group of world-famous architects and their buildings are closely connected to the interest of the media and the experience economy: "But it was the implications of the 'Bilbao Effect' that were obvious to the media, and to every aspiring metropolis. If a city can get the right architect and the right creative moment in his or her career, and take the economic and cultural risk, it can make double the initial investment in about three years" (Jencks, 2005, p. 19).

One of the examples of iconic architecture in Jencks's book is the new central public library of Seattle (2004), designed by architect Rem Koolhaas of the Dutch firm OMA (Office for Metropolitan Architecture) (Jencks, 2005, pp. 102–103). The history of Seattle's main library is in itself a showcase of the development of twentieth-century library architecture on the same site in downtown Seattle. A Carnegie library was opened in 1906, a typical temple of knowledge in the Beaux-Arts style. It was replaced in 1960 by a five-story, modular, international-style library, containing special facilities such as a drive-in service window, where patrons who ordered books in advance could pick them up without having to get out of their cars. The new, iconic Seattle library is an eleven-story, crystalline building with a striking appearance, lodged among the high-rise office buildings of the area. A glass and steel net forms a skin around the inner floating platforms. At ground level you find the Microsoft auditorium, and on the third floor the open "living room" with many activities, including reading. From here the escalator will take you to the "mixing chamber" with computers and professional help, and you can continue to the four-story "book spiral," where the nonfiction collection is placed in a continuous series of shelves according to the Dewey Decimal System, without breaking the collection up into separate floors or sections. On Level 10 you find quiet areas of reading, local history, and administration. The library design tries to combine fixed and flexible functions.

The iconic status of the Seattle Central Public Library corresponds to other recent, spectacular downtown library buildings such as those in Chicago, Denver, Las Vegas, Los Angeles, Nashville, Salt Lake City, and San Francisco. These buildings set out to be prominent facets of the experience economy, to create multiuse public spaces, and to anchor the social and community development of inner-city areas. On a smaller scale, the public library of Cerritos, south of Los Angeles, near Disneyland, is an example of an experience and learning library, where each room of the library tells a story. This postmodern library design represents the opposite of the modular library as well as the minimalistic design tendencies around the millennium.

In Europe also, a series of spectacular libraries have been built. In Paris the Bibliothèque Nationale de France was erected between 1988 and 1995, designed by Dominique Perrault. The library is situated on a

previous industrial wasteland on the banks of the Seine. The four corner towers of the building can be interpreted as open books with symbolic meaning, and the inner courtyard with trees can be experienced in relation to Naudé's thoughts about the importance of library gardens and Labrousse's painted artificial landscapes. Around the garden, specialized reading rooms are arranged on mezzanine levels, with materials being delivered from the towers, which house the collections as well as the library's administrative accommodation.

In London, the British Library near St. Pancras Station was begun in 1982 and opened in 1997, designed by Sir Colin St. John Wilson (Stonehouse & Stromberg, 2004). Its red-brick treatment corresponds to that of the nineteenth-century, neo-Gothic Midland Hotel and St. Pancras Station next door, but the modernism of the new library building contrasts sharply with its neighbor. The library is situated in central London. The portico, the piazza, and the amphitheater connect the library with the surrounding urban space. The building has four floors below ground. The exhibition galleries, with easy general access, are located on the first two floors, and the three top floors contain reading rooms with large amounts of natural light. The library has a roof garden to the rear.

Also in London, examples of urban renewal projects, including libraries as resource centers with extended cultural and learning activities, are the Idea Stores and the Peckham Public Library in London. The desire to reposition the library in the twenty-first century has been highly visible in the emergence of the "Idea Store" to replace the traditional brand of the "library." The range of Idea Stores opened by the London Borough of Tower Hamlets represent not only a bold new design concept but also an imaginative semantic shift in the way people think about libraries. The prototype Idea Store, in Stratford, was partly a refurbished century-old library. Later units—for example, the Whitechapel Idea Store—have been, and will be, purpose-built structures. Endorsement of the Idea Store design concept came with the shortlisting of the Whitechapel building for the 2006 Royal Institute of British Architect's Stirling Prize. One of the main aspects of Idea Stores is their location adjacent to shopping areas. The main advantage of "shopping center" libraries, or libraries highly proximate to shopping outlets, is that they increase footfall. The main disadvantage of such libraries, it might be argued, is that they take on a privatized, consumerist image, conflicting with their fundamental "public service" ethos (Black, Pepper, & Bagshaw, 2009, p. 217; Goulding, 2006, p. 257).

Winner of the Stirling Prize in 2000, Peckham Public Library in South London has become an icon for those convinced of the need to break with the past in terms of the kind of service offered to the public and the design required to deliver that service in a pluralistic, postmodern society. Peckham's boldly colored inverted capital letter "L" shape has come to represent the energy that has characterized purpose-built public library

architecture in recent years. The library has become a vibrant new civic landmark for the area. Designs like Peckham Public Library depart from historical precedent and library architecture that conforms to a recognizable type (Black, 2011).

In Copenhagen, “The Black Diamond” was built as an extension to the Royal Library as part of the creation of a new harbor promenade offering several cultural activities and institutions. It was designed by the architects Schmidt, Hammer & Lassen, and opened in 1999. The name refers to the sharp prismatic edges and its surface of black granite and glass, which reflect the water of the harbor. The black surface contrasts with the inner open spaces with reading rooms in light wooden materials in Scandinavian style. From the wave-like balconies of the central foyer that cuts into the building as a twenty-four-meter high atrium, there is a panoramic view over the harbor. The seven floors of the building contain not only traditional library functions such as the four reading rooms, but also a concert hall, exhibition galleries, bookshop, café, and restaurant. A small Jewish Museum, designed by Daniel Libeskind, has been integrated into the old 1906 red-brick library cathedral, designed by Hans J. Holm.

THE GLOBALIZATION OF LIBRARY ARCHITECTURE, DESIGN, AND DISCOURSE

Another important aspect of library architecture around the millennium was globalization, not only of communication networks and access to information, but also of the development of library architecture and design and the discourse about it. In Japan, China, and Southeast Asia, in particular, new library buildings are expanding and experimenting with the possibilities of new information technologies. Some of these buildings are built in regional styles, but often they represent the same “monumental futurism” as the library buildings of the West.

In 2003, the international library organization IFLA published *New Library Buildings of the World*, an international survey of spectacular new library buildings, which documents the internationalization of the library design phenomenon. It is noteworthy that both this book and the corresponding 2006 *Classical Library Buildings of the World* have a Chinese editor, Wu Jianzhong.

An interesting example of Japanese library architecture is the Sendai Mediatheque, designed by Toyo Ito and completed in 2000. This “mediateque” complex combines a library, an art gallery, and a media center of visual images. The open-space building is defined by three elements: “plate,” “tube,” and “skin.” The “plates” are the six horizontal squares, representing the different media, connected by the thirteen vertical “tubes” with flows of information, energy, water, light, and sound. The “skin” is the outer layer, separating the interior and exterior of the building.



Figure 6. Interior of the Bibliotheca Alexandrina, Egypt (opened in 2002). Source: Nan Dahlkild (2010).

The glass façade faces the main street, making visual contact possible from both outside and inside.

In China some of the new library buildings reflect regional architectural traditions, such as the National Library (1987) and the Peking University Library (1998). The Shenzhen Library (1998–2003) is designed by the Japanese architect Arata Isozaki. It is a cultural center that also contains a concert hall. The large open spaces have visible structural elements and hanging escalators.

One of the most ambitious cross-continental and cross-cultural library initiatives is the new library of Alexandria (fig. 6). The Bibliotheca Alexandrina was designed by the Norwegian drawing office Snøhetta and opened in 2002. The library is located by the waterfront avenue in the same district where Greco-Roman remains were uncovered in 1996, and overlooks the Mediterranean Sea. Replicating the ancient Egyptian image of the sun, the library concept is a circular building, inclined toward the sea and submerged into a pool of water. The wall is of Aswan granite with calligraphy, inscriptions, and signs from alphabets and civilizations from all over the world. The “ideals” of the library are a combination of past and present, and a desire to connect different cultures, languages, and parts of the world.

Historically, the story of the modern library has been the opening up of library buildings and library space: from Gabriel Naudé's *Advice on Establishing a Library* (1627/1950); to the "open shelves" revolution around 1900; to the free-plan, minimalist experiments of twentieth-century modernist architecture; to the "library without walls." Discourse about library space has taken many forms and sources. The library building has developed as an independent building type with its own identity, ideal types, and model libraries, linked to modernity and the modernization of society and reflecting the development of "libraryness." It has developed a specialized discourse on library architecture in books and articles, in guidelines from patrons and library associations, and in professional debates. Library professionals, architects, patrons, and trustees have all been innovators and have participated, to varying degrees, in the formation of the discourse. Hopefully the library-design discourse between library professionals, builders, and users will continue. Time will show, how "libraryness" will develop.

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