

Transforming Mid 20th-Century Libraries to Meet 21st- Century Needs

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Abstract:

Many developed countries saw a post-World War II construction boom from the 1950s–1970s, resulting in thousands of international, modern, and brutalist style civic buildings. Although referring to architectural styles or design philosophies, the terms “modern” and “brutal” in particular are often used to convey the perception of a lack of sensitivity to qualities humans value in buildings (in fact, the term brutalist refers to the concrete used in construction, derived from the French béton brut, or “raw concrete”). In the US, these mid-20th century buildings were often designed in response to Cold War fears as bunker-like buildings with limited access to daylight and views.

Many of the world’s libraries inhabit such structures today. Built when the term collection referred to physical books and was one of the sole measures of a library’s quality, these midcentury buildings were efficient shelter for stacks. Today, libraries struggle to provide relevant services in these rigid, often decaying buildings. Due to defunct building systems, inflexible interiors, and lack of insulation and daylight, they often end up on demolition lists despite their intrinsic value. However, with vision and careful planning, these buildings can embody 21st-century library tenets.

Keywords: library architecture, midcentury modern design, 21st century library design, brutalist style, modern style, international style, renovation, restoration, public buildings, civic architecture

Introduction

Civic architecture construction proliferated after World War II, especially from 1955 to 1975. Key circumstances that fueled this building boom include post-war reconstruction efforts in Europe, the Soviet Union, and Japan; an economic boom in North America; and a worldwide population explosion. Each country's extent of industrialization, maturity in development, and intellectual climate influenced the impact of World War II on architecture differently. Despite these differences, modernist tenets of the 1920s architectural revolution survived and these influences can be seen in buildings throughout the world. Those generally considered the masters of modern architecture were still alive after 1955 and extending architectural investigations of the earlier modern movement.¹

The popularization of commercial aviation and television and the initial spread of imagery and sensibilities through the internationalization of architecture (i.e., through emigration of prominent architects, who often became teachers in the prominent architecture schools, as well as practitioners) had a large impact on the aesthetic direction of civic architecture. The architects who had reached professional maturity by the early 1960s shared many commonalities: male, born between 1915-1930, heavily influenced by World War II, and coming of age during the decline of the international style. There is evidence of a desire for self-expression freed from allegiance to the founders of modern architecture and expansion on architectural theses or pet ideas. Favoured forms tended to be masculine, rational, functional, efficient, and focused on form versus ornament.

Developing materials and technologies influenced the architecture as much as the persons practicing at that time. Industries previously reserved for the war effort (e.g., steel, aluminium, glass, and rubber) were now available for the construction industry. Many sources cite the optimism of this time regarding materials, production, and technology and an exuberance for experimenting with these technologies in the architecture. While hailed as producing better and more consistent interior environments, advances in lighting, heating, and air conditioning systems also sealed off the building's occupants from daylight and nature. Windows were no longer a necessity for light or fresh air. In contrast to the 21st century's focus on living buildings through daylight harvesting and connection to nature, midcentury civic buildings were designed to be machines.

¹ William J. R. Curtis, *Modern Architecture Since 1900*, Phaidon Press Ltd. 3rd Edition 1996; Chapter 22 *Modern Architecture in the U.S.A.: Immigration and Consolidation*.

Arguably, midcentury public architecture often failed to connect with the building users. In addition to a perceived unsuitability for people, many considered the buildings eyesores. This conflict with the public nature of libraries is regrettable. When Orlando Public Library's new main library building opened in 1967 in Florida (United States), it was met with resistance. In



Library Journal, Clara E. Wendel describes community members attacking its “bleakness” and referring to it as a “monstrosity.”² These strongly negative feelings characterize many people's sentiments regarding midcentury civic architecture. Another high profile example is the 1974 Birmingham Central Library building in the United Kingdom, now being demolished. {figure 1}

1) Birmingham Public Library, credit Wikipedia Public Domain

A prime example of brutalism, the building garnered

strong feelings by all who experienced it. Prince Charles famously encapsulated public sentiment for the building when he said it looked like a place for burning books, not for housing them.

It's easy to understand this perspective. Many midcentury library buildings – and brutalist buildings in particular – are dark, inwardly focused, imposing structures. When built, two programmatic drivers ensured that spaces designed principally for people were not a priority: social gathering took place in coffee houses, social clubs, salons, taverns, and around the television in homes rather than in the library, and libraries were judged primarily on the size of their collections (specifically, access to vast print resources). Anthony Thompson demonstrates this concept in his 1963 book about library design, in which he discusses the three design drivers for library buildings: book processes, readers' activities, and library staff activities. He describes the readers' activities as, “mainly quiet” and cautions they, “should be segregated when planning the library in order to ensure quietness.” He enumerated readers' activities to include seeing books, choosing books, reading microfilms and “extension work,” which was defined as lecture hall or theatre events.³ As a result of this prevalent understanding of what a library was, architects designed library buildings primarily to house print collections, rather than to provide great spaces for people.

² “Monolithic Concrete in Orlando”, *Library Journal*, December 1, 1967

³ Anthony Thompson, *Library Buildings of Britain and Europe*, Butterworth & Co. Ltd. 1963.

However, public perception and acceptance of varied architectural aesthetics are broadening. Popular culture is an influencer through the midcentury modern aesthetics of hit television shows such as *Mad Men* and online publications such as *Dezeen* and blogs such as *bright.bazaar*. Nostalgia for a simpler time has softened attitudes about the midcentury period and its productions, leading to more acceptance of the midcentury aesthetic by the masses and not just a subset of society. The products that surround us are getting sleeker, which mirrors a desire by many to simplify and streamline. These trends are changing our collective sensibilities about midcentury architecture. Renowned due to the American 1970s television hit *The Brady Bunch* (its façade was used to depict Mike Brady’s architecture firm), the Beverly Hills Library was swallowed up in 1990 by a renovation/addition in a decidedly post-



2) Beverly Hills Library before, credit Alison Martino



3) Beverly Hill Library after 1990 renovation, credit Alison Martino

modern aesthetic {figures 2&3}. One wonders, had the building survived intact, whether the current renovation project would seek to enhance the midcentury aesthetic rather than obliterate it, as was done in the previous renovation.

Many librarians have cursed their midcentury modern buildings’ aesthetic, and worse, their inability to support 21st-century library service. However, these buildings have many assets that make them ripe for transformation, including prime locations within the city fabric, desirable scale of interiors and floor-to-floor heights, good handling of structure including the capacity for book stack loads, durability of building materials, and relative ease of increasing access to daylight and views. All of these traits support the aspects that make a building responsive to 21st-century library requirements:

Adaptability

As the philosopher Heraclitus wrote, “Nothing endures but change.”⁴ For organizations that serve communities, such as libraries, this adage is critical to internalize. To remain relevant, libraries must be both leading and responsive in delivering what its community members need to succeed and thrive. What is needed to thrive is in a state of continual change. From 1960 to 1975, most articles written to describe new library buildings touted the plentiful stack space and inclusion of lighting appropriate for reading, with the occasional nod to comfortable chairs. Today, most articles written to describe new library buildings feature the wide variety of community gathering space types. What will articles written in another 40 years highlight?

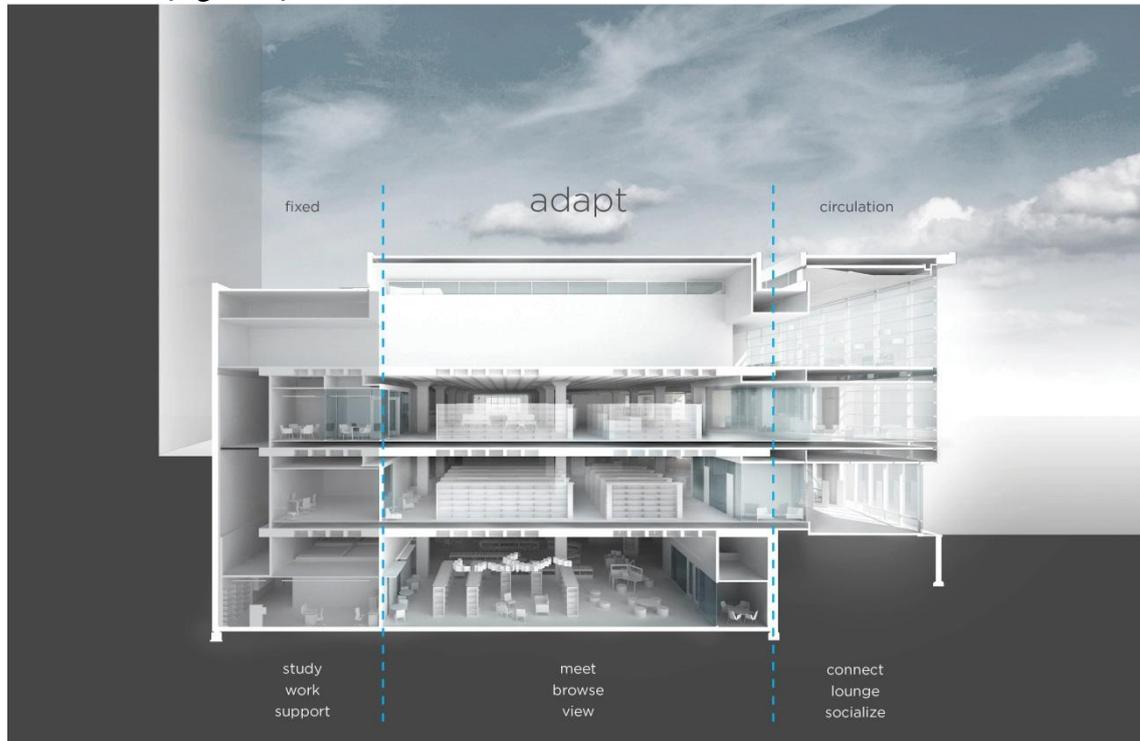
⁴ Diogenes Laertius, “Heraclitus,” *Lives of Eminent Philosophers*

In 1965 (well before public access to the Internet), American library architect J. Russell Bailey wrote, “We now have ways and means for housing and using more information in less space, but we haven’t found ways to reduce the space required by people who come to the library to read, listen, and look.”⁵ In the early 21st century, this comment could very well be expanded upon to include create, play, consume, collaborate, serve, and be introspective. In a relatively short period, the needs of library users have expanded to include a wide variety of activities, each with different, and sometimes competing, supporting needs. Bailey continues, “We may expect the library of the future to be more attractive in larger areas of the building. Floor spaces now given over to book storage can be given over to reader spaces.” Bailey’s comment highlights the beginning of a decades-long conversation about the balance of print materials and spaces for people.

The 21st-century library building does not prescribe a balance of print versus people spaces based on today’s understanding of the right balance, with an expectation that the library will adapt its products and services to fit in a static container. The best 21st-century library building designs allow that balance to continually evolve. One of the main criticisms of midcentury modern library architecture is its inflexible nature resulting from rigid geometries or heavy construction materials. However, many inherent qualities of these buildings (built as containers for books primarily and as spaces for people a distant second) make them conducive to modifying for 21st century library service. In the United States, the 2014 renovation of the Madison Public Library’s 1965 Central Library (in Wisconsin) achieves this outcome through a dogged determination to link all design moves to adaptability.

⁵ “Mr. Architect, Listen,” *Library Journal*, December 1, 1965

- At the most basic level, each floor was arranged to group more permanent aspects of the building (e.g., mechanical systems, location of staff workrooms, and restrooms) along a stacked service bar on one side of the floor. This arrangement allows the balance of each floor (roughly 75%) to be free of difficult-to-move obstructions. Sufficient interior column spacing (32', or 9.75 meters, on center) makes this flexibility achievable. {figure 4}



4) Madison Central Library interior zoning_credit MSR

- The original mechanical systems, defunct after 50 years of service and optimized for a time when energy was inexpensive and plentiful, were completely replaced, affording the opportunity to reconsider how to deliver fresh air and thermal comfort to the occupants. Due to the floor-to-floor height in the existing building (14'-8", or 4.47 meters), inserting a raised access floor was possible. The raised floor houses all mechanical, data, and electrical runs and was selected for the long-term flexibility it offers.
- In conjunction with this the design team kept ceiling-mounted light fixtures to a minimum, instead mounting the fixtures to library shelving and reconfigurable furniture, or using floor lamps to augment daylight. In anticipation of shelving further giving way to seating, stack lighting can be adapted to work with furniture in the future.
- Flexible furnishings allow temporal change. This flexibility ranges from daily adjustments at the user level to allow patrons' to customize their own experiences based on task to adaptability on a monthly or annual basis for larger adjustments at the staff level based on service needs.
- Using a fully reconfigurable standard shelving system and collection signage mounted on magnets, nothing hinders staff from shuffling collections or removing shelving.
- Interior daylight access was increased by expanding the size of the existing windows. As with many midcentury buildings, the existing building's exterior wall construction was well suited to this intervention (the exterior walls are not load-bearing). The

daylight driven deep into the floor plates eliminates heavy reliance on electric light fixtures, in turn ensuring that programmatic changes are not tied to the locations of light fixtures. {figure 5}



5) Madison Central Library, credit Lara Swimmer

Transparency

Many midcentury civic buildings were constructed robustly, often in response to the war's recent destruction or as literal bunkers in response to Cold War fears. This solidity translates to opaque exteriors and dark interiors, which conflicts metaphorically with the library's mission of free and unabridged access to information and ideas. Public buildings are meant to resonate with people – even more imperative for the 21st century library – and the building should also be a reflection of the inhabitants' beliefs and mission. Many midcentury buildings used as libraries need a realignment of building to institutional values. As a place for free and unabridged access to information and ideas, library buildings should represent this value through self-evident identity.

Buildings are certainly a reflection of their time, and an argument can be made for preserving them as part of the history of place and sensibility. Particular notable midcentury civic buildings should be preserved as prime examples of their type. However, many are not significant examples and contain obsolete or sustainably unsound systems (such as single-glazed window systems). Fortunately, midcentury buildings exemplify a contemporary approach (starting with skyscrapers in the late 1800s) of carrying structural load on the columns, independent from the exterior wall structure. Exterior walls are typically not loadbearing, which facilitates making the perimeter more porous. In contrast to most midcentury skyscrapers, the civic buildings were often structured to easily take on additional structural loads at the perimeter. This allows the structure to bear the weight of a

contemporary double- or triple-glazed window system, making it possible to replace opaque materials such as brick, concrete and stone.

For the Madison Central Library project, the change from opaque to transparent was dramatic and well received. *Green Building and Design Magazine* states, “To longtime Madison residents, the Central Library is no longer recognizable. That’s a good thing; the building ditched its deep setback and tiny windows for large picture panes and a street-edge presence.”⁶ {figures 6+7}



6) Madison Central Library before exterior, credit John Schott



7) Madison Central Library after exterior, credit Lara Swimmer

A change to transparency on the exterior also has positive interior consequences. Part of what makes a building comfortable to use is the ability to visually understand the interior. Views to the exterior allow building users to orient themselves more easily; windows revealing familiar outdoor sights become interior landmarks.

Nexus

21st-century libraries offer connection at all scales, from face-to-face meetings with fellow community members to online global interactions. Midcentury civic buildings tend to be located in the heart of their communities. Even in cases where growth has shifted the center of commerce, the location of a midcentury library building is generally strongly associated with a city’s identity. For example, the site of the former Birmingham Central Library will become home to a major mixed-use development, including offices, retail and a hotel; the developer refers to the site as the “heart of Birmingham.”⁷ Location is critical to nexus; like retail establishments, libraries profit from being located where the people are.

⁶ <http://gbdmagazine.com/2015/madison-central-library/>; Jan/Feb 2015

⁷ <http://www.paradisebirmingham.co.uk/>

Facilitating gathering at all scales is critical. The open plan of midcentury buildings, along with the inclusion of interior spaces one might consider idiosyncratic today, favors social gathering space requirements. The recent renovation of a Paul Rudolph brutalist library on the UMass Dartmouth campus creates an essential variety of scales by working with – rather than against – the existing building’s commanding structure. The result is interior space that allows for groups to gather in a variety of ways. {figure 8}



8) Claire T Carney Library, credit Jonathan Hillyer

The support of visual and digital literacy is just as critical. To thrive in the 21st-century world requires visual literacy, media, and critical thinking skills; this is at the heart of the maker space movement. Designers of midcentury civic architecture could not have anticipated the impact of computers and the Internet on libraries; personal computers were for the hobbyist not the masses. Access to power was not a priority. Since the 1990s libraries have incorporated not only computers but also myriad technologies to support new ways of converting information to knowledge. In the quest to support visual and media literacy the continued expansion of technological offerings and varied space type needs will surely continue.

Adapting midcentury buildings for these technologies can be straightforward. Floor-to-floor heights in midcentury civic buildings often accommodate the insertion of a raised access floor as was done at Madison Central Library. When cost or height limitations prohibit this solution, innovations in the furnishings industry have enabled power to be inexpensively brought to more locations without infrastructural intervention.

User-Centric

Information abundance has demanded a shift: 21st-century libraries place more emphasis on people, less on things. Library users need spaces that support achieving digital, visual, and cultural literacy. Everyone needs a building that is healthy, comfortable, functional, and uplifting.

The library building should be a sought-out destination that the community feels compelled to visit. The library will have customers no matter its condition but by providing a great experience through design, libraries can become a central part of more peoples' lives and the communities they serve.

Customization has increased in recent years. Consumers have the ability to define their own experience in nearly every aspect of their lives. Focus has shifted from mass production to mass customization. Personal choice is available for all, not just the rich – for everything from the cup of coffee we drink and suits we wear to the bicycles we ride and way we have news formatted and delivered. This ability to define and choose our experiences has enormous implications on customers' expectations for both library service and design.

Consumers are also inundated with design-related media and resources through television and the Internet. Websites such as *Pinterest*, *Dwell*, and *Design-Milk* expose us to a wider range of styles than was possible just ten years ago without extensive travel. As a result, library users are more sophisticated about design. The term “user experience” has permeated retail, web design, software design, product design, and hospitality industries. This evolution doesn't mean libraries should become theme parks. Rather, it suggests that library building designs must acknowledge basics about human nature.

It is common to compare libraries to retail because retailers understand something that libraries can learn from: emotions and experience matter. In *Self Comes to Mind: Constructing the Conscious Brain*, Antonio Damasio writes, “Humans are not either thinking machines or feeling machines but rather feeling machines that think.”⁸ Neuroscientists such as Antonio Damasio remind us of the importance of recognizing the role emotion plays in our decisions. Where we choose to spend our resources (e.g., money and time) is personal. A University of Texas study by Raj Raghunathan and Szu-Chi Huang suggests that we tend to base our decisions first on emotion and then try to back that gut response with facts and logic.⁹ This pattern has been found to apply to dating, religion, politics, and hiring, among other activities, and has powerful implications for library buildings.

When it comes to physical and psychic comfort in a physical space humans have innate needs. Buildings designed with these basic needs in mind help library users learn and focus better and be more productive and comfortable. They may not consciously recognize why, but will appreciate the building on a deeper level and want to return.

Visual Variety

Contrast experiencing a typical convention center meeting room with experiencing a nature walk. The meeting room lacks visual variety: the ceiling is a plane of white punctuated by glaring lights; the carpet and walls are basically the same tone; the room offers no view outdoors. Nature, however, has variety in color, texture, light, shadow, canopy and ground cover. Humans are wired to appreciate this sort of visual variety and are drawn to buildings that provide it. Midcentury building interiors often include visual texture expressed in glazing, masonry modules or the very structure itself. Allowing that visual texture to remain contributes positively to the interior.

⁸ Antonio Damasio, *Self Comes to Mind: Constructing the Conscious Brain*, Pantheon Books 2010

⁹ <http://www.texasenterprise.utexas.edu/2010/04/21/innovation/do-you-make-buying-decisions-based-logic-or-emotion-tale-two-chickens>

One of the benefits of using a raised floor for the Madison project was the resultant clear ceiling (of mechanical ducts, light fixtures and data runs). In clearing the ceiling of this equipment the existing dropped acoustic ceiling was also removed, exposing the previously-hidden waffle slab structure. The exposed structure provides attractive visual texture and improves the scale of the interior. The result is a library that feels better to occupy. {figure 9}



9) Madison Central Library_credit Lara Swimmer

Choice

Today's best libraries offer control over how to use the facilities through choice and variety. They provide spaces to sit out in the open, as well as niches that allow privacy. Midcentury buildings often compel this variety through idiosyncratic spaces created by the original geometry. 21st century libraries also allow users to control aspects of their environment, such as the window coverings in a study room or task lighting at a study table. These small details make a large difference over how a building is perceived and enjoyed.

Daylight and View

Studies consistently show that access to daylight and view increases well-being and concentration. Variability in lighting also helps thinking and is healthier for our eyes. While glare is a problem, a sunbeam marking the passage of time as it moves across a wall throughout the day is a desirable trait. As discussed earlier in the paper, increased access to daylight is relatively straightforward with most midcentury civic architecture. In addition, the robust structures of midcentury buildings often allow for vertical additions of green roofs, which can offer alternative ways to achieve increased daylight and view.

Zoning

Library users have their own expectations for using a library, whether to work alone, collaborate with others, or quickly grab an item and go. Often all of these uses take place in one open, flexible space. Humans are more at ease when we know what is expected of us. At an amusement park, we know we can be loud and boisterous. We know to be quiet in the waiting area of a doctor's office. But the definition of library is changing, and old norms are being challenged. Visual cues (e.g., ceiling height, lighting, materials, or furniture layout and type) signal appropriate behaviors.

Delight

Delight is perhaps the most important, and most overlooked, innate need. Delight feeds the human spirit. Daylight and view can help, just as the perfect chair in the perfect spot can make us feel content. But the unexpected can delight as well. Providing little touches of whimsy or delight, for example through public art or interactive fixtures, can elevate the user experience. {figure 10}



10) Madison Central Library, credit Lara Swimmer

Cultural Hub

The cultural value of reusing an existing building should not be underestimated. Memory and connection to the history and built fabric of a community are persuasive incentives. As an institution dedicated to knowledge, narrative and story, a tangible manifestation of a community's narrative – and the library's – can be powerful.

As a building for the people, libraries are increasingly sought-out venues for exposure to the arts, hosting cultural events, and accommodating community-building forums. Midcentury modern buildings have a gravitas that lend themselves naturally to civic gathering. In western Europe and North America in particular, the midcentury modern period was marked by a cultural shift away from conformity and unity to experimentation, expressive aesthetics and individuality. This trend is manifest in many aspects of post war life, from the fashions of the day (such as Dior's "New Look" dress), to the explosion of consumerism to architectural. Architects and designers embraced this freedom by experimenting with building materials,

systems technologies, and methods of construction. The modernist movement eschewed decoration for decorations' sake, instead relying on the inherent beauty of geometry, form and material. As a locus for cultural offerings, midcentury architecture makes a great foundation.

Increasingly, places for hands-on learning and creating are an active and vibrant part of libraries. The act of creating is heavily influenced by one's surroundings. If a space is perceived as too formal or precious, creative thought can be stifled. Alternately, the quality of midcentury buildings and attention to materiality, visual texture, and assembly can be both inspiring and didactic. Brutalist buildings in particular promote visible materiality by exposing construction materials and craft, notably with concrete structural forms. Use of concrete in this way is a dying art; concrete is largely viewed as a commodity today, not the craft it once was and production of cement (the basic ingredient of concrete) is resource-intensive to produce. The experience of occupying buildings using concrete crafted in this way, especially when paired with tactile and colorful elements to visibly soften spaces can be stimulating to creative work.

The success of the Madison Central Library project is perhaps most pronounced in this area. Once a reviled building, the central library is now firmly central to the cultural experience in Madison, from providing opportunities to practice printmaking to hosting a pinewood derby to becoming a popular wedding venue. The renovated building supports all of these functions by being adaptable, non-precious, and of its community.

Conclusion.

The bones of a midcentury modern building can offer an excellent starting point for creating a building that resonates with its users and its institution's values. Having prized efficiency in housing the book, midcentury buildings are rationally organized and often have wide-open spaces that are easy to repurpose, even if a building is not beloved in its current state.

While many decry the value of midcentury buildings due to failing mechanical systems, inflexible interiors and opaque exteriors, midcentury civic buildings have been constructed in such a way that these issues are relatively easily overcome. In the heavy construction of midcentury buildings (and brutalist buildings in particular) the building systems were not typically incorporated into the structural systems, but were added after construction of the building structure. This makes these systems relatively easy to replace. The structure of midcentury buildings is often in sound, reusable condition with wide column spacing and plenty of load-bearing capacity for increased perimeter glazing.

The greatest obstacle is public attitude toward the midcentury (and especially brutalist) aesthetic. Happily, with the ongoing cultural shift in aesthetic tolerance, gaining support to renovate these buildings, instead of demolishing them, has become easier.

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