

● Architecture for Art:

Investigating new paradigm shifts in
art gallery & museum design in the
21st Century

Belqis Youssefzay

Byera Hadley
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2015





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Belqis Youssofzay was awarded the Byera Hadley Travelling Scholarship in 2015

Cover image: Gallery of Time, Louvre Lens by SANAA

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Architecture for Art: investigating paradigm shifts in art gallery & museum design in the 21st century

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- Technical data sheets

The purpose of the research was to investigate key shifts in the design of art galleries & museums over the last 15 years and to document the impact of evolving curatorial agendas, contemporary art practices, innovative technologies and new urban design approaches on the architecture of an art gallery.

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Introduction:

*Beyond walls for art:
The art gallery in the 21st century*

In late October 2015, an article published in the New York Times critiqued the architecture of art galleries and museums built in the last 15 years of the new millennium. Titled 'Toward a Museum of the 21st Century', its author Holland Cotter, an art critic for the New York Times, argued that the late 20th century's love of "gigantism in architecture and art" ¹ as heralded by the Guggenheim Bilbao, had come to epitomise the architectural approach to art galleries world-wide. ²

With a global surge in the commissioning of new art galleries and museums in both cities and regional centres, the article posed a timely question for both the architecture and arts community on the architectural and curatorial attributes of the 21st century museum.

This document is the product of the Byera Hadley Travelling Scholarship awarded in November 2015 for a research project titled 'Architecture for Art'. The focus of this research are issues pertaining to design of contemporary art galleries and the shifts in contemporary gallery design practices across Japan, Europe and America, with a focus on buildings newly built or restored in the last 15 years. The goal of the research is to identify relevant lessons for the Australian context, architectural practitioners and cultural institutions.

In a globalised and connected world, an art gallery has become more than a site for the viewing of art, it contributes to the social, cultural and economic landscape of the city. With increased tourism and visitation numbers, the civic and functional role of an art gallery has seen major shifts in recent times. This can also be attributed to the evolution of artistic practices, new curatorial agendas, as well as greater cultural

diversity of visitor groups.

According to a 2009-2010 survey by Australian Bureau of Statistics "a total of 6.4 million persons aged 15 years and over (37% of the population) visited an Art gallery or other museum" in the twelve months preceding the survey. And tourists accounted for an additional 1.6 million visitors. From a survey, of Australia's "2.8 million international cultural and heritage visitors in 2012, 58% reported visiting a museum or art gallery."³

Increased visitation to cultural sites and galleries has been an instigator in the expansion and rethinking of the traditional modes of engaging with art and art spaces. Art galleries are increasingly sites of spectacle, education, play, communal gathering and exchange, heralding new typologies in architecture to allow for multiplicity of functions. The gallery is seen as an expanded public space, and whilst at its centre exists the display of art, the gallery must now also house a variety of additional functions and spaces ranging from children's activities to lectures, performance, dining and research.

On a grand scale this research seeks to engage with the question of How is a 21st century museum supposed to look and function? In an evolving cultural context what role and purpose does an architect bring in tackling the design of an art gallery that extends beyond providing merely walls for paintings.

Functional performance

The art gallery and museum has historically been a site for the viewing of art. Though central to this research is the investigation of contemporary standards for the display of art, the research takes a broader view by

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Introduction (continued)

looking at the emerging building typologies, as well as structural, infrastructural and services systems.. In addition, the guiding spatial requirements are examined.. These include the over-arching approaches to siting, planning and materials to both the interior and exterior spaces.

The interior condition

An exhibition space, its associated structure, infrastructure and materiality is often guided by a curatorial narrative. For art galleries staging contemporary works of art, spaces must facilitate regular and repeat fit-out and adaption to the artistic intent and curatorial premise of each show. This report examines guiding principles in adapting spaces and the structural, material and planning strategies of leading institutions supplemented by a flexible services systems including lighting, environmental control, security and conservational requirements.

A receptacle but not quite a white cube

Central to the investigation of the interior condition of each contemporary art institutions is whether they adhere to the traditional 'white cube' model. Though it is necessary for interior architecture of an art gallery to recede and let the art/ artefact be the most pronounced presence, this does not prescribe a space devoid of architectural character. Most of the galleries featured in this report either implement this approach or provide a deviation from it in innovative ways.

Curatorial premise

In a July 2016 interview with Apollo Magazine, Frances Morris, the new director at Tate, spoke of the new extension to Tate Modern Switch House, London as a deviation from new museum buildings that "look like

shopping centres and have a generic feel to them."⁴ She commends the architecture of the extension for providing a "fluid" and "not prescriptive" journey through their collection.⁵ Further emphasising the idea at a keynote delivered at the Museum of Contemporary Art in September 2016, she stated that contemporary art museums are important "civic sites for the exchange of ideas between the public, the artists and the institution."⁶

The recent collection hang at the Switch House is a non-chronological approach to exhibiting art from the Tate collection produced between 1960 to now, showcasing a variety of media and scale of works. The building responds to this through a non-hierarchical planning approach by setting up exhibition spaces along a well-considered vertical circulation path. The exhibition spaces provide flexible spaces and opportunities for adaptability upon collection changeover whilst retaining an interior condition sympathetic to the industrial character of the site and the Turbine Hall.

A different curatorial premise guides the architectural approach to the exhibition spaces and experience of Kolumba Museum, Cologne. The Kolumba Museum's collection of historical and contemporary works are juxtaposed within a series of spaces designed that are modest in scale, uniform in material treatment and devoid of environmental graphics or text. Here the architectural approach is guided very closely by the curatorial premise and the small collection.

Conservation standards

This research aims to provide data from each visited institution as a set of best-practice guidelines, highlighting international standards for the display of art and the programming of an art gallery and museum.

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Introduction (continued)

Globally art galleries typically comply with international conservation standards. These apply to humidity, light levels and climate control, and establish a set of guidelines towards establishing overarching architectural strategies. These guidelines are as follows:
Temperature - 20 degree celsius
Relative humidity + / - 50%
Lux levels - most institutions are expected to lower lux levels to 25- 50 for paintings and works on paper.

Differing light and environmental control strategies dictate a certain adaptability of the interior condition that manifests in key architectural approaches to cladding, windows, openings, lighting systems and general planning. Secondary to this are the interior material specifications that influence light and acoustic reflections as well as temporary fit-out opportunities for changing programs of exhibitions.

Experiential attributes

Whilst the emphasis of the research presented in this report capture a spectrum of art spaces facilitating different experiences, it is important to note that the experiential attributes of the 21st century gallery extend beyond the art. Whilst some focus predominantly on the engagement with the art, others provide equal focus towards public programs, learning and participation and creative activities. This presents a model for the contemporary gallery that expands to include a myriad of activities surrounding the experience of art. A range of strategies towards establishing public space is explored in each institution differently. Both landscape and interior public spaces are central to the experience of art as they provide expanded zones of engagement with art, the collection and the greater aspirations of the institution.

Towards the end of his article, Cotter provides a glimpse toward what a 21st century museum might aspire to by stating “the new museum won’t be defined by architectural glamour or by a market-vetted collection, though it may have these. Structurally porous and perpetually in progress, it will be defined by its own role as a shaper of values, and by the broad audience it attracts.”⁷

The 18 art galleries presented in the following pages provide a glimpse into what defines and guides the architectural characteristics of the 21st century museum. This report does not offer a definitive answer, but illustrates, through examples, a range of solutions and design strategies that respond to a rapidly evolving context of art and its display.

References:

- 1.Holland Cotter, “Towards a Museum of the 21st Century,” New York Times, November 01, 2015, 10.
- 2.Ibid
- 3.“4172.0 - Arts and Culture in Australia: A Statistical Overview, 2014,” Australian Bureau of Statistics, last modified July 10, 2014, <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4172.0main+features152014>.
- 4.Stephanie Dieckvoss, “A university with a playground attached: Frances Morris’s vision for Tate Modern,” Apollo Magazine, June 2016, 16.
- 5.Ibid
- 6.“Frances Morris, Director, Tate Modern,” MCA, accessed June 22, 2017, <https://www.mca.com.au/events/international-keynote-address-frances-morris/14625>.
- 7.Holland Cotter, “Towards a Museum of the 21st Century,” 10.

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Introduction (continued)

METHODOLOGY AND APPROACH

• Selection of institutions

The list of institutions that feature in this report was collated in close consultation with other architects, curators & artists. A broad list was developed for the application which was refined further keeping in mind the funds allocated and the time available to undertake the research. During the research trip 34 museums were visited and 18 of these have been included in the report. These 18 institutions serve as the starting point of a broader on-going research project to which new art galleries will be added as the research expands.

• Categorisation

Most of the art galleries and museums in this report have been categorised by the type of collection and content on display.

In Australia the term “art gallery” is used for institutions housing works of art and “museum” is reserved for institutions encompassing Aboriginal and Torres Strait Islander keeping places, natural science, applied sciences, history and transport museums. However in most institutions visited and mentioned in this report, both art gallery and museum are used as interchangeable terms to describe institutions that display art; contemporary, modern and historical.

Certain institutions in Australia and elsewhere in the world exhibit both historical and contemporary works within their exhibition spaces so the research outcome pertaining to the design of galleries for historical and

contemporary has lessons for institutions where both types of works are exhibited. Art Gallery of NSW is one such example in Sydney where historical works are often exhibited along with contemporary works and exhibition spaces have to be adapted to accommodate the conservational requirements of the type of art / artefact on display.

• Documentation

Site visit - Each institution was visited at least once during the research trip with some requiring multiple visits both during visitor hours and pre-planned and before - hours visit.

Photography - Most institutions were recorded through photography as the main form of documentation. Only a shortlist of each is included from hundreds taken on site.

The photographs for each institution has been presented in a particular order starting with how the building presents itself as a civic site, followed by interior shots of each space, some highlight moments and then the smaller details that are critical to the everyday function of each space.

Technical Data Sheet - accompanying each art gallery is a technical data sheet filled out with data pertaining to general information and infrastructural aspects of each art gallery / museum. The square metre areas documented have either been sourced from published information or where unavailable appear as estimates derived from scaled plans of each institution and identified as “approximate”. Areas that appear in the technical data sheets should be viewed as indicative,

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Introduction (continued)

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with a view to understand general proportional relationships and sizes between exhibition spaces and other ancillary areas only.

• Interviews

Included in this report are four interview transcripts that were part of many interviews and site tours. They provide a an overall overview, both practical and conceptual from four different practitioners with great knowledge of art galleries.

Part of the research was informed by an interview and several informal chats with Dr Michael Brand (AGNSW director and curator). His input was valuable in shortlisting the institutions that were visited most of which are presented in this document. These conversations with Dr. Brand also provided a checklist of things to observe during my visits.

The other interviews represent a range of practitioners working with art galleries and museum that include: architects who are engaged in reconsidering the architecture of the art gallery (SANAA), a facilities manager who understands the day to day workings of a gallery (Steve Harris, New Museum), an exhibition designer (Brian Butterfield, The Metropolitan Museum of Art) and an exhibitions manager/ conservator (Jesper Lund Madsen, Louisiana Museum of Modern Art).

These conversations provide a glimpse into both the practical and aspirational agendas of each institution and reflect the current challenges and practices on contemporary art institutions.

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Gallery for contemporary and modern art

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- // 21st Century Museum of Contemporary Art, Kanazawa
- // Louisiana Museum of Modern Art, Humlebæk
- // Palais de Tokyo, Paris
- // SCAI Bathhouse, Tokyo
- // 21 21 Design Site, Tokyo
- // Switch House, Tate Modern, London
- // MET Breuer, New York
- // New Museum, New York
- // Whitney Museum of American Art, New York
- // Storefront for Art & Architecture, New York

The art galleries featured in this section are designed for or adapted for the staging of contemporary art. Contemporary art may be spatially contingent and/or site specific and feature a variety of media (painting, sculpture, site-specific installation, multimedia, sound, performance etc) and differing scale (large-scale sculpture to small scale drawings). The contemporary gallery must cater for all manner of works and media by providing adaptable spaces, building systems and services.

// 21st Century Museum of Contemporary Art, Kanazawa

Synopsis

Envisaged by its architects SANAA as a 'public park', this museum rethinks the traditional model for an art museum through a unique urban proposition that continues to inform the museum's internal planning strategy. Here the traditional experience of an art museum is reconsidered to provide a less-formal experience of art. Art and art spaces, here, are framed within the greater experience of the city of Kanazawa and within a building that plays on notions of openness and transparency both conceptually and structurally.

Architect: Kazuyo Sejima & Ryue Nishizawa - SANAA

Year Opened: 2004

Location: 920-8509 Ishikawa Prefecture, Kanazawa

Total Floor Area: 27,920 sqm

Exhibition Area: 17,069 sqm

Description

The 21st Century Museum of Contemporary Art, Kanazawa is situated in the centre of Kanazawa city. Accessible from three sides, the museum as envisaged by its architects SANAA as a "public park". A series of independent gallery pavilions of varying sizes is enclosed by a circular membrane of glass.

The museum provides an opportunity for people to gather and rest within the museum complex regardless of whether they see the exhibitions. The perimeter glass wall results in an ambiguous spatial definition between the museum's various spaces. Two open, glass-walled courtyards bring ample daylight into the galleries but also act as additional sites for the display of permanent art.

The planning principle of the museum is based on three key concepts.

Form:

The circular periphery is the most obvious characteristic of this museum. The complex accessible from three points welcomes visitors from multiple directions. The galleries and other function areas float within the circle as independent pavilions as if a small city block.

Interstitial spaces:

Between the exhibition spaces visitors find themselves walking through a large grid of corridors, akin to city streets, intersected by glass-enclosed courtyards. These spaces become sites for more art and an opportunity to gather and rest between exhibits.

Transparency:

The use of glass walls, both on the periphery and within the museum complex, produces a sense of transparency and openness. It also enhances a sense of encounter between visitors and the art. The transparent perimeter counteracts the perception that the museum is an introverted space. As a consequence the building reads less as a formal site for the viewing of art, but rather a place for exploration, adventure and play.

Collection / Art / Content

The museum collects contemporary works of art produced since 1980. Additional to this the museum has 10 permanent works of art integrated within the architecture by the following artists:

- Olafur Eliasson
- Leandro Erlich
- Anish Kapoor
- Florian Claar
- James Turrell
- Jan Fabre
- Patrick Blanc
- Pipilotti Rist
- Michael Lin
- LAR / Fernando Romero

Curatorial premise

The acquisition policy of the museum is based on the following principles:

1. Artworks produced since 1980
2. Artworks providing points of reference in terms of art

// 21st Century Museum of Contemporary Art, Kanazawa

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history since 1900.

3. Creative works closely associated with the Kanazawa area.

Civic presence

Protruding vertically from a low-lying circular volume a series of white cubes can be seen from the adjoining streets and some key vantage points within Kanazawa.

The lawn surrounding the museum houses 3 permanent artworks which includes 'Colour activity house' by artist Olafur Eliasson, 'Klangfeld Nr.3 für Alina' by artist Florian Claar and 'Wrapping' by LAR / Fernando Romero.

These artworks further add to the civic presence of the museum encouraging visitor engagement with art before entering the museum complex itself. This further enhances the concept of the museum as a 'public park'

Architecture

White steel clad boxes of varying proportions with traditional white cube interiors provide the perfect environment befitting the scale and ambition of the contemporary works on display.

The other ancillary functions such as children's area, library, classrooms are contained in other glass-walled pods and are differentiated from the gallery spaces through their materiality and sense of transparency.

With three entry points and a non-linear path through the building, visitors follow a self-directed journey through the gallery complex. A series of pivoting glass doors are maneuvered within the corridors to manage

the visitor flow through the interstitial spaces.

The basement level contains a 'People's Gallery', a theatre, a media lab and a casual seating area. The loading dock is also located in the basement.

Exhibition spaces

The exhibition spaces are comprised of 13 independent pavilions each with a different proportion and volume. All 13 spaces have been treated in a unified manner both materially and infrastructurally. White plasterboard walls, a concrete floating floor (with a 50mm gap all around the periphery for services) and a frosted glass-paneled ceiling (with structure and other services infrastructure concealed above) is consistently the same throughout. Mechanical louvre systems above the glass allow for the modulation of daylight and mechanised lighting control (which pours into the space as diffused light through the frosted glass) allows for the white cubes to be transformed into darkened spaces for multimedia displays.

Limitations

- Each exhibition space being independent and separated from other exhibition spaces means that the curation of a show requiring more than one volume is problematic for a consistent narrative of one show and creating a coherent circulation path. This also results in the spaces not providing the opportunity for sight-lines from the interstitial zones.
- Lack of storage in the front of house areas results in a clutter that is visible from the outside.

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“Architecture as a public park is an idea unique to Kanazawa. But it is a democratic approach to a museum, it is both a museum and an urban space and it is always something we have in mind when we design museums.”

- Ryue Nishizawa, SANAA,
architect, 21st Century Museum of
Contemporary Art

..... Interview by Belqis Youssofzay. Tokyo, 6 July, 2016.

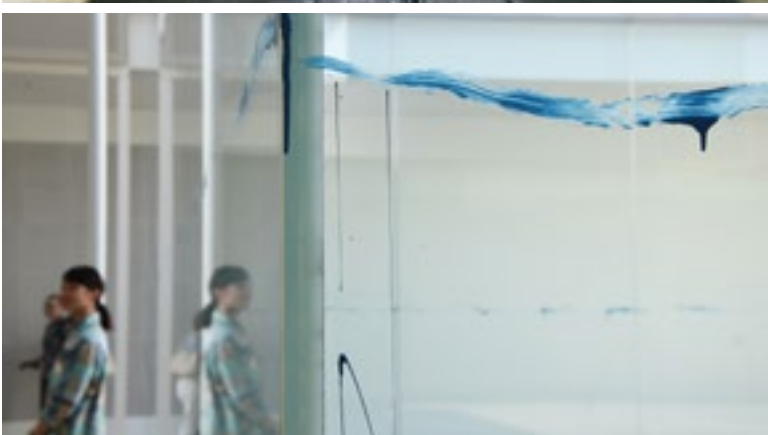
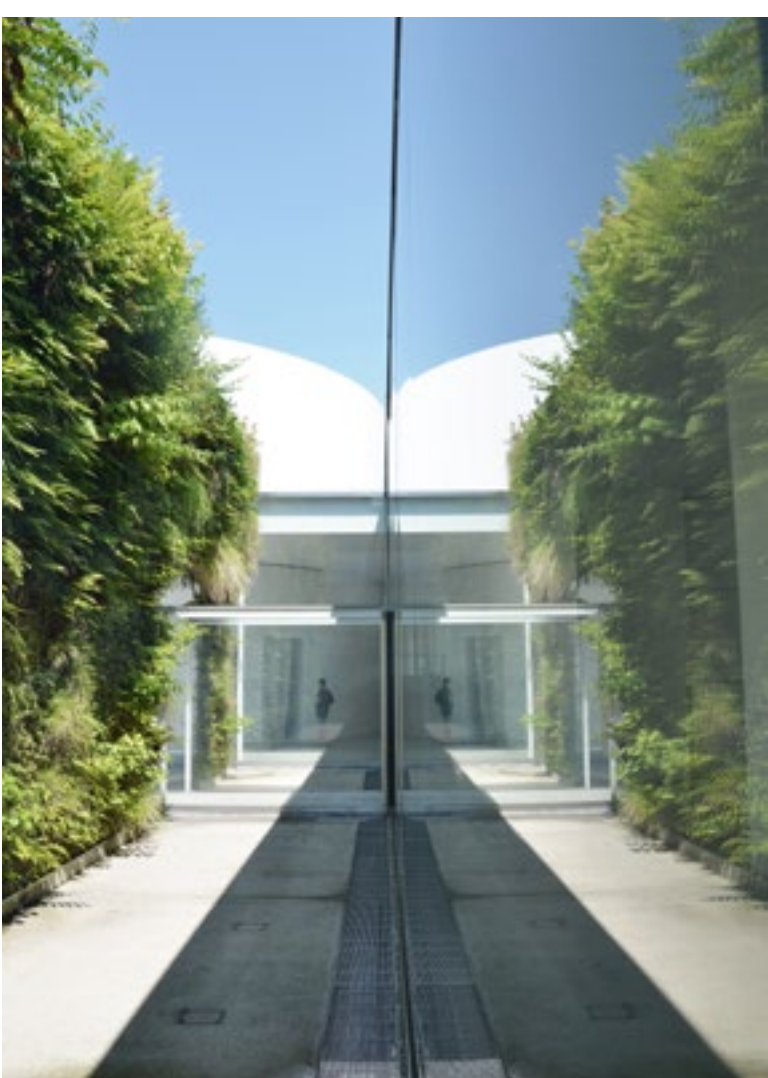




Civic presence & siting

The gallery's presence is apparent from key vantage points within the city.

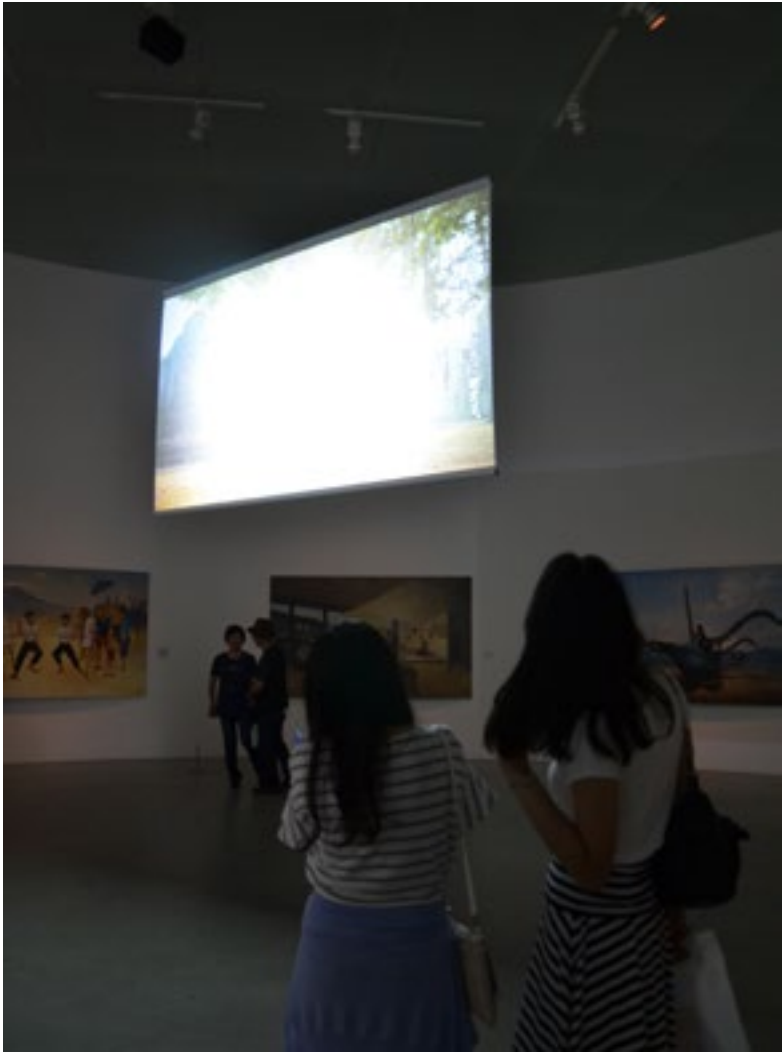
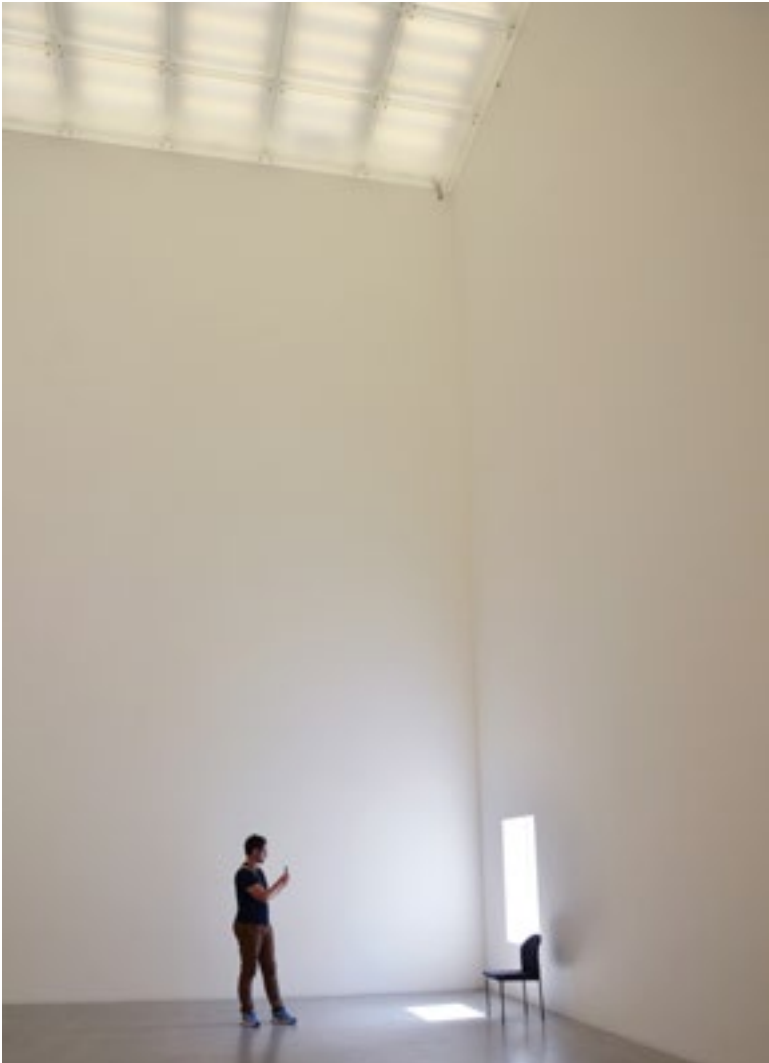
The volume and siting is sympathetic to the scale and proportion of surrounding buildings.



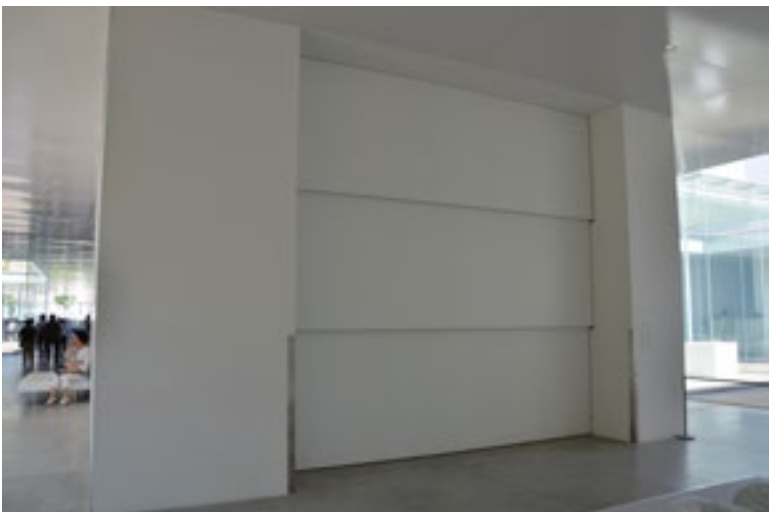
Interstitial spaces

The in-between circulation zones and open courtyards provide zone for outdoor installation and opportunities of encounter between visitors. The open courtyards bring ample light to the interior corridor spaces









Ancillary spaces

Presented here are the different self-contained ancillary spaces that support a variety of activities within the gallery. These include a learning space, a library, a shop and the basement lecture halls.

// Louisiana Museum of Modern Art

Synopsis

With the exception of a few underground galleries, almost all art in this museum is seen against the backdrop of the greater landscape that surrounds the complex. This experience is facilitated by the considered planning during successive expansion of the museum. The scale, materiality and vistas framed by each gallery makes for a compelling art museum experience.

Architect: Jørgen Bo and Wilhlem Wohlert

Year Opened: 1958 (original) with 3 expansions in the 1970s, 1980s and 1990s and current renovations (2016)

Location: Gl. Strandvej 13, 3050 Humlebæk

Total Floor Area: 9,525 sqm (approx excluding gardens)

Exhibition Area: 5,500 sqm (approx)

Description

Established in 1955 around the private collection of Knud W. Jensen the Louisiana Museum of Modern Art began its life as a humble old villa amongst trees by the coastal road along Sound. It is located 30 km north of Copenhagen along the coast with a panoramic view of Sweden across the Sound.

The Louisiana Museum consists of a series of interconnected pavilions that have grown progressively with the museum's collection of modern and contemporary art. The architecture is humble in its scale and presence within the landscape and the art, regardless of medium, is framed within spaces that connect the visitors and the art back to the landscape. Essential to the experience of this museum is the journey through the spaces. It is hard to understand the planning logic at first which leads to the visitor being led to undiscovered parts of the museum. This notion of getting lost within the maze-like network of pathways and corridors only to emerge within another art space is what makes for a compelling experience of art and landscape.

On a nice summers day visitors can be seen sharing a picnic by Joan Miro's sculpture 'Personnage' or meandering through Richard Serra's 'The Gate in the Gorge' after they have experienced the famous Giacommetti Gallery set against a backdrop of Humlebæk Lake and its lush gardens.

Collection / Art / Content

The Louisiana Collection comprises 3,500 works, in all

genres ranging from painting, sculpture to multimedia and installation works.

Curatorial premise

The Louisiana Collection is international in its perspective as well as its scale. It covers the period from 1945 to the present and includes almost every genre of art with particular emphasis on painting and sculpture. The curatorial premise of Louisiana is centred on the following key periods in modern and contemporary art:

- European Art after 1945 (with works from key modernist artists and other leading European artists on rotating display)
- American Art after 1945 (representing American movements of the 1950s and 1960s such as Pop Art, Minimalism and Color Field from renowned artists such as Warhol, Lichtenstein, Rauschenberg, Dine and Oldenburg)
- Danish Art (Louisiana's collection of Danish art up to about 1960 contains a large number of major works important for Danish art history)
- Contemporary Art from the 1990s onwards (Represented by pieces by Mona Hatoum, Pipilotti Rist, Sam Taylor-Wood, Sherrie Levine, Gary Hill, Paul McCarthy, Mike Kelley, Julie Mehretu, Wolfgang Tillmans and many others)

Three artworks are on permanent display:

- Giacommetti Gallery (contains key sculptures by Alberto Giacometti)
- the Asger Jorn Gallery
- Yayoi Kusama's installation 'Gleaming Lights of the Souls'.

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Civic presence

A series of low-lying pavilions occupy the landscape. At the street level, the visitors are greeted by the original cottage that now houses the ticketing and administration offices. From the sea, the pavilions appear as un-intrusive elements in the landscape.

Architecture

Planning

The current museum's planning and siting was part of the original brief by Jensen to the architects Jorgen Bo and Vilhelm Wohlert and centred on three key principles:

1. The planning was formulated around the idea that the original 19th-century country house on the site was to form the entrance to the new gallery.
2. Jensen required a double-height space where Giacometti figures could be exhibited against the backdrop of the Humlebæk lake. This gallery is presently the famous Giacometti Gallery that is an integral part of the museum experience.
3. Jensen required a cafeteria with a view to the sea and to Sweden on the far side of the Öresund.

The above conditions formulated the original siting and planning where the architects Bo and Wohlert designed three independent pavilions linked by glazed corridors.

Pavilions

The extension by Bo and Wohlert to the original cottage is a modern art gallery designed in the modernist architecture tradition and designed for changing exhibitions of significant works of modern international

art and of the museum's own collection of contemporary Danish art.

Three large exhibition halls are placed in the northernmost corner of the site where they face the park with large windows and are connected with the old villa by corridors of varying widths. Also included in the scheme are a library and a cafeteria. A fourth exhibition hall was completed in 1966. Further underground galleries were added to the south edge of the site and are connected to the northern pavilions via a series of underground corridors.

Building mass

The building volume and building mass are not discernible externally. The various pavilions and make up the Louisiana Museum complex are comprised of a series of low-lying structures embedded with the undulating topography of the site. As such there is no prominent elevation to the museum and the elevations shift from a low lying structure that face the interior courtyard to the more prominent outer elevations facing the sea and the lake.

Exhibition spaces

Spaces

In the original set of pavilions have whitewashed plasterboard walls whilst the floors are covered with brown-red tiles. The roof structure is expressed with robust roof beams consist of LVL beams. In the recently added galleries the materiality of the original pavilions have been replicated albeit within bigger volumes. All exhibition spaces are connected back to the landscape

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either through windows directly overlooking the gardens, the lake or the sea or through very carefully planned circulation paths that lead the visitors out into the landscape before they enter another pavilion. Even the concert hall has two large open windows overlooking the sea.

Services

Services and lighting infrastructure in the more recent additions have adaptability built in allowing for change in lighting conditions. The spaces, too, can be adapted with small temporary walls but don't offer too much flexibility in the re-organisation of the spaces. The lighting grid and power are consistently upgraded in keeping with the most up-to-date technologies. The lighting in the original pavilions are surface mounted tracks. The newer exhibition spaces have adaptability of services and lighting control built into a floating ceiling panels to modulate daylight entering or block it out entirely.

Circulation

Part of the original planning and the subsequent expansion has been the strategic approach to establish a circulation path through the pavilions that is an integral part of the exhibition spaces. There are some dedicated circulation zones within the complex but for most part the visitors move through the exhibition spaces themselves. Whilst in an art gallery like the 21st Century Museum of Contemporary Art , Kanazawa, the circulation paths occupy a substantial floor area, in this instance the circulation through the exhibitions occurs mostly within the exhibition spaces.

Landscape

The complex with its three pavilions was integrated into the topography of the site with great care given to the landscape. The original series of pavilions now forms the north wing of Louisiana Museum of Modern Art, which extends from the entrance building to the coast offering views of the park with its outdoor sculptures of Calder, Serra, Miro and many others. The lush landscape is replete with trees, ferns and artificial and natural waters.

Limitations

- As is the case with most museums originally built at a time where the standards were different for the display of art, Louisiana Museum, faces the challenges of changing art practices, curatorial agendas that lead to works that are bigger in scale or have complex installation requirements. Most of the facilities are equipped to cater for artworks but during exceptional circumstances when a large loaned work is coming into the museum, the loading dock and the path for the art to be transported has to be reconsidered.
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For more on the museum and its everyday function please read the interview transcript with Jesper Lund Madsen provided at the end of this document.

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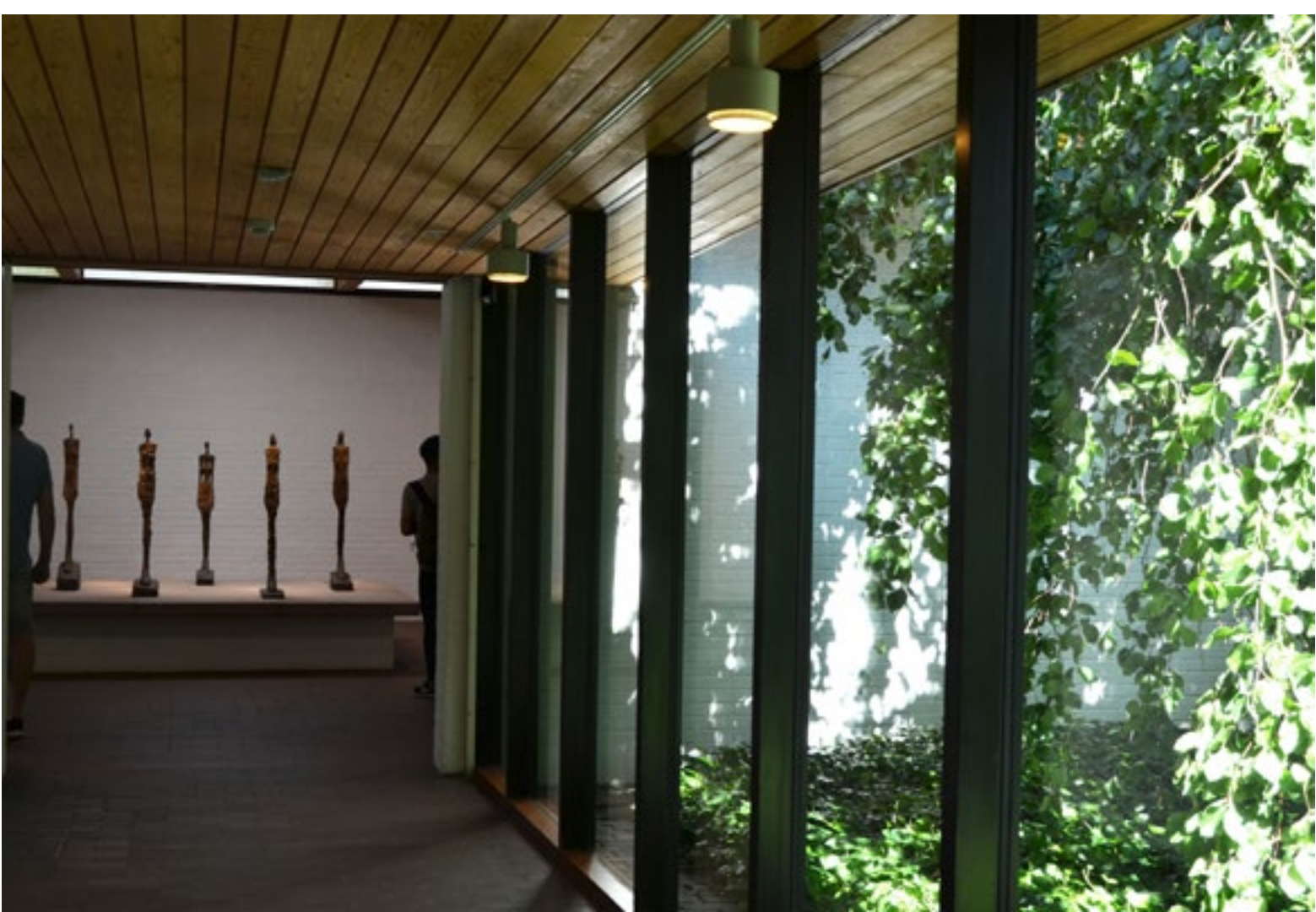
“When you walk around the museum, the landscape belongs to the museum. The museum belongs to the landscape. The buildings belong to this place. That’s what’s totally unique. Exhibitions are immediately present. So one strengthens the other. It is because of this immediacy - this evidence - that this isn’t a traditional museum.”

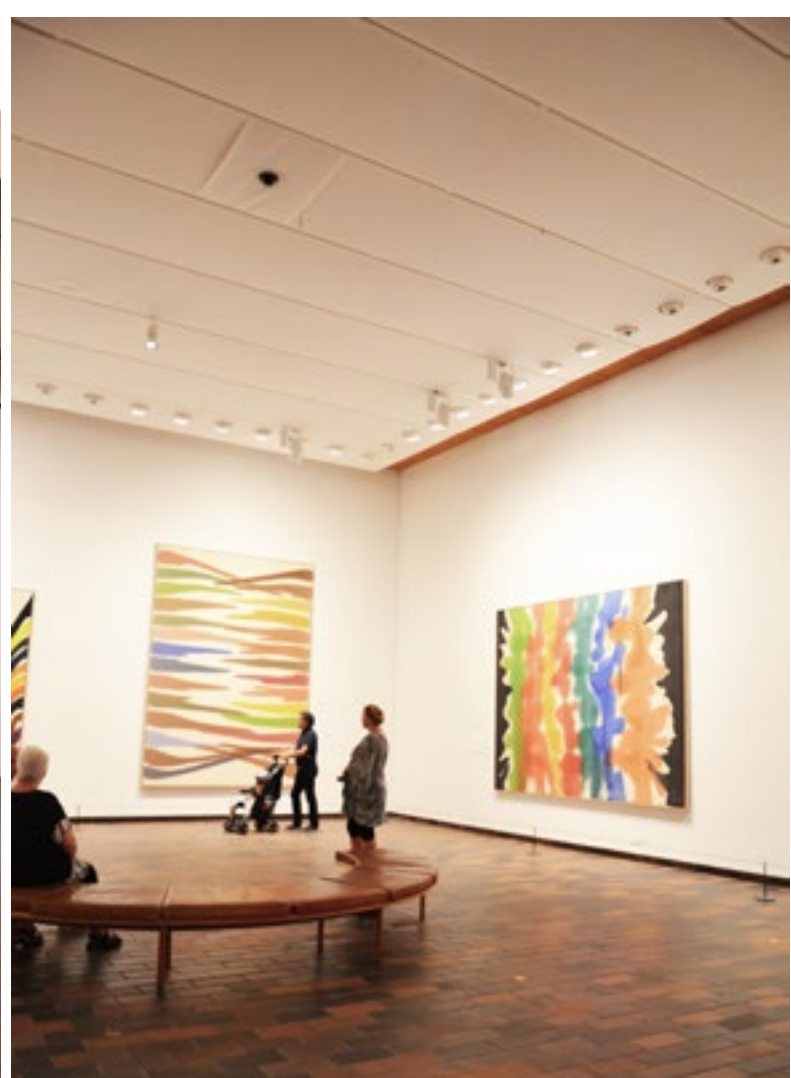
- Jean Nouvel,
architect

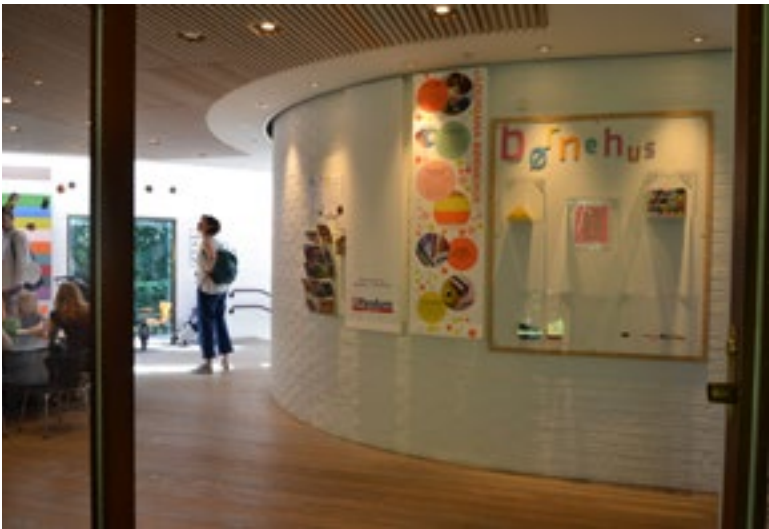
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“The architects carefully considered the landscape before they started drawing. As you can see the architecture is closely associated with the landscape. The interesting thing is that they first built one wing, then added another and so forth, and a concert hall – but it was more or less conceived like that from the beginning. In close cooperation with Louisiana’s founder Knud W. Jensen.”

- Jesper Lund Madsen,
Exhibition Producer/ Conservator,
Louisiana Museum of Modern Art

Interviewed by Belqis Youssofzay. Louisiana Museum of
Modern Art, Humelbaek Denmark, July 26, 2016.

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// PALAIS DE TOKYO

Synopsis

A compelling case for adaptive re-use, Palais de Tokyo provides an unfinished and unembellished series of interior volumes for the display of contemporary art. The monumental volumes of the original building has been stripped back with the architects providing only essential services and infrastructure to all the spaces. Artists and curators engage with the space in a myriad of ways to adapt, extend and play with the space to suit the art.

Architects: Anne Lacaton and Jean-Philippe Vassal (restoration)

Year Opened: 1937 (original building), 2002 (stage one renovations), 2012 (stage two renovations)

Location: 13 Avenue du Président Wilson, 75116 Paris, France

Total Floor Area: 22,000 sqm

Exhibition Area: 9,800 sqm (approx)

Description

Palais de Tokyo is one of the many emerging urban sites that is challenging the paradigm of a formal 'white cube' art gallery experience. Instead it provides an unfinished, unembellished series of interior environments for the siting of contemporary works of art from emerging and established contemporary artists. It is a site for both art and creative activity within the heart of urban Paris, with a dedicated series of programs and activities that extends beyond the experience of art.

Designed in 1937 to operate as two separate museums for the Exposition Internationale, the building currently the "Palais de Tokyo" was built on what was then called the Quai de Tokio after which it was named. In the years following its opening the Palais de Tokyo was used for various other functions (from a film centre to a cinématique to a storage facility during WWII) and subsequently suffered from decades of neglect and deterioration to the built fabric.

Commissioned for the housing of modern art, it soon was relegated to the sidelines and Centre Pompidou took over the role of hosting modern art exhibitions in the late 1970s.

Stage one renovations were carried out by architects Lacaton & Vassal in 2002. This phase of the renovation saw the renovation of several of the indoor areas of the west wing.

Stage two renovations saw the conversion of the entire west wing of the building into gallery spaces totaling 22,000 sqm and making it the largest site devoted to contemporary art site in Europe.

Through the ruin-like presence of its interior spaces, Palais de Tokyo deviates from the traditional model of an art gallery and rather becomes an anti-museum in a constant state of flux and transformation.

Collection / Art / Content

Palais de Tokyo is a non-collecting art gallery and does not own a permanent collection. Instead the gallery offers extensive program of temporary exhibitions and installations. With a focus on contemporary art and installation, each exhibited is created especially for the rustic exhibition spaces.

Curatorial premise

The rolling agenda of exhibitions staged within the gallery is dedicated to both emerging and established artists from France and around the world. The Palais de Tokyo's exhibitions programming consists of thematic and monographic exhibitions by a contemporary artist, large-scale art interventions and annual invitations to artists to propose an exhibition for the entirety of the space.

Civic presence

When approaching Palais de Tokyo from Avenue de New York the visitor is greeted by a formal building. Replete with all the insignia of an art deco building, the facade presents itself as a double height space with relief sculptures adorning it. The esplanade consists of a shallow pool that solemnly occupies the area between the east and west wing walking around which the visitors are greeted by the two symmetrical stairs

// PALAIS DE TOKYO

(continued)

leading to an outdoor area that currently serves as a cafe.

Architecture

A reductive approach to space-making, the stripped down structure both exposes and embraces the raw materiality of the original building's structure.

For the stage two renovations, the gallery space was expanded from 7000 to 22,000 square meters. This stage also enabled the re-opening of the unused basement and converting it into an exhibition space. A deviation from the traditional white-cube interior model of other galleries, this building strips the cladding and decorum and celebrates the patina of a structure that has stood for 80 years. While the basement level provides a series of subdued atmospheres, the upper levels bask in the warmth of sunlight that filters through glass skylights.

Power cables and lighting tracks run as a series of exposed networks over walls and ceilings imbuing the building with a sense of an informality within which the experience of art becomes a playful encounter. Similarly the building signage lacks formality in its presentation, instead the list of current exhibitions, ticketing prices and other information is presented as a series of printed A4 sheets joined together to present signs at a larger, more legible scale.

A restaurant / cafe, a bookshop with a focus on contemporary art and art theory, artist residency spaces, a kids activity area under a permanent artwork by Henrique Olivier provide a range of ancillary activity

spaces that adjoin the exhibition spaces.

The building adheres to the planning set-out by the existing buildings footprint but there is no strict designation of front of house and exhibition zones. The activities of one space often bleeds into other areas breaking a hierarchical experience of the building. Here the lobby is both a waiting / breakout area but also a site for a temporary art installations. The circulation areas also become sites for more art or opportunities for big signage or environmental graphic for a particular exhibition.

Casual seating and furniture consists of a series of institutional chairs reclaimed from various administration areas and other places within the building, further adding to the informal ambiance of the institution.

Lacking formality in both art, building and activities, Palais de Tokyo becomes a site of play, adventure and contemporaneity in the heart of urban Paris.

Exhibition spaces

Veering away from the white cube model, here weathering and wear to the building fabric is celebrated as a necessary patina within which works of all medium and scale are sited. Every surface presents an opportunity for site-specific intervention and here art is not limited to designated walls.

The exhibition spaces provide a variety of environmental conditions ranging from 'black-box' spaces for multimedia projections to double height volumes filled with diffused daylight for sculptural installations.

// PALAIS DE TOKYO

(continued)

The exhibition spaces come in a variety of volumes and material constructs ranging from exposed concrete and brick to secondary timber structures with plasterboard walls built within the shell of the building. Lighting is predominantly fluorescent battens on suspended tracks that is a continuous element from the front of house areas, circulation zones and into the exhibitions spaces. Exhibition spaces are often supplemented by additional focused lighting or exhibition specific lighting.

The Salle 37

An oval-shaped movie theatre built as part of the original building in 1937 was uncovered during the demolition phase associated with the 2012 renovations and is currently fully operational as a theatre and site for large-scale multimedia works.

Landscape

The esplanade

Surrounded by sculptures by artists such as Leon-Ernest Drivier, Auguste Guenot and Aristide Maillol, and featuring a large central pool, the esplanade is a popular site for Parisian skateboarders. The site outside the galleries remains active during all hours due to the inviting nature of space for the skateboarders and other urban flaneurs.

The Jardin aux Habitants

A small plot of land adjoining the Palais de Tokyo has become a fruit and vegetable garden run by 16 gardeners. Though it doesn't directly affect the visitor experience, it demonstrates an effective use of an urban site for a thriving communal garden.

Materiality

It is the importance of act of exposing the original structure that the space acquires its unique ambiance. The variety of textures that make up the structure of the original building and the introduction of new structures (plasterboard/ plywood walls) create informal sites inviting more robust engagement between art and building and a more playful environment.

Limitations

- despite the esplanade being an inviting and active area, the entry to the building from Avenue de New York is not particularly obvious nor is the path to the entrance very clear.
- Most exhibits and spaces work with the existing spatial set-up of the original 1937 building. Because of this, at times, the organisational logic of certain exhibitions is not apparent.
- Due to the scale of the building, the extent of the exhibition/ art spaces is not clear. The visitor is encouraged to explore the building, however, without any sequential logic.
- The unfinished materiality of concrete and brick as the predominant surface treatment poses acoustic problems for art installations with sound elements and other multimedia works. Though in some instances this is remedied through placement of temporary carpet tiles, the larger of the exhibition spaces remains unfurnished.

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"The Palais de Tokyo is a space that welcomes and is driven by living artists, that is politically engaged without being dogmatic, that is serious without being arrogant – it is joyful, casual, and profound, all at once. A one-of-a-kind center for contemporary artistic creation, it takes us on a poetic and transgressive journey where one does not reflect on art but rather with art, and in so doing it transforms us."

- Jean de Loisy

President of Palais de Tokyo since 2012

"Who We Are," Palais de Tokyo, accessed June 22, 2017,
<http://www.palaisdetokyo.com/en/who-we-are>.

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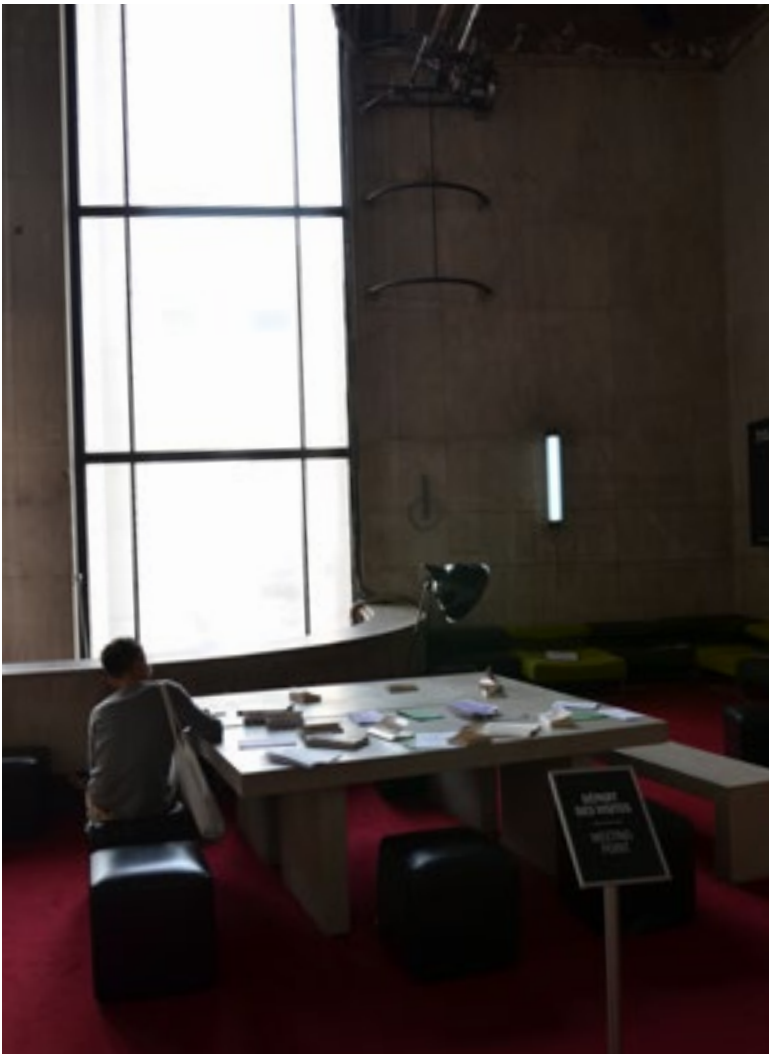






Entrance space

The images presented here demonstrate the material, structural and infrastructural condition of the front of house areas including signage and furniture.



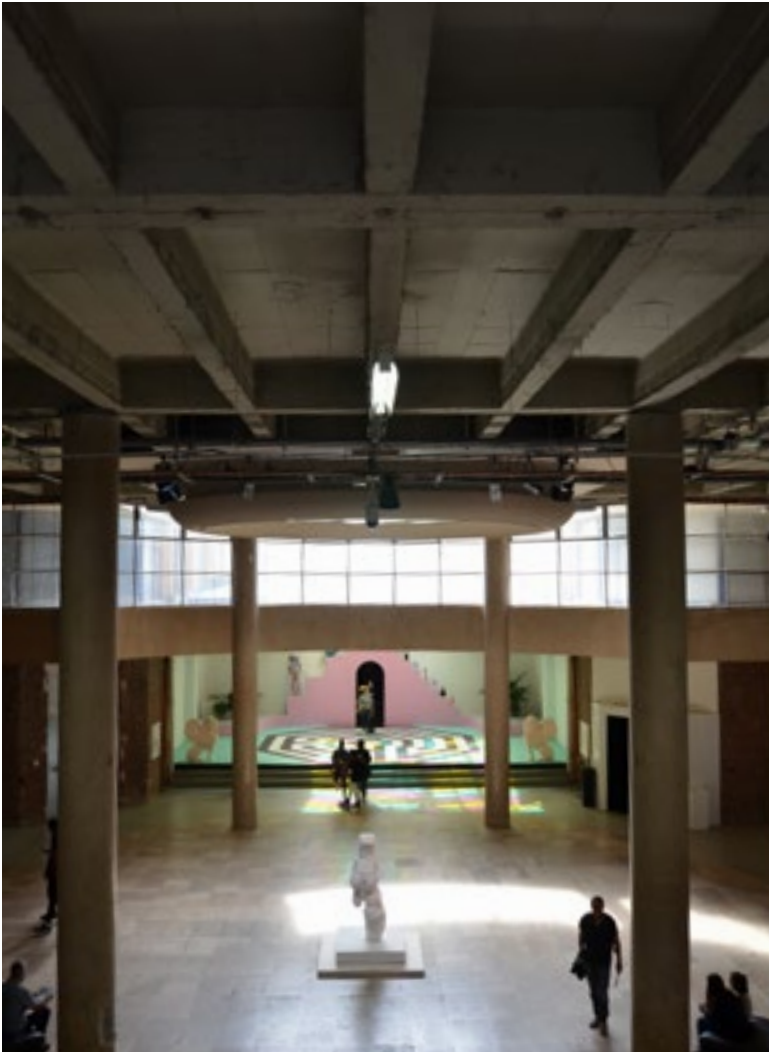
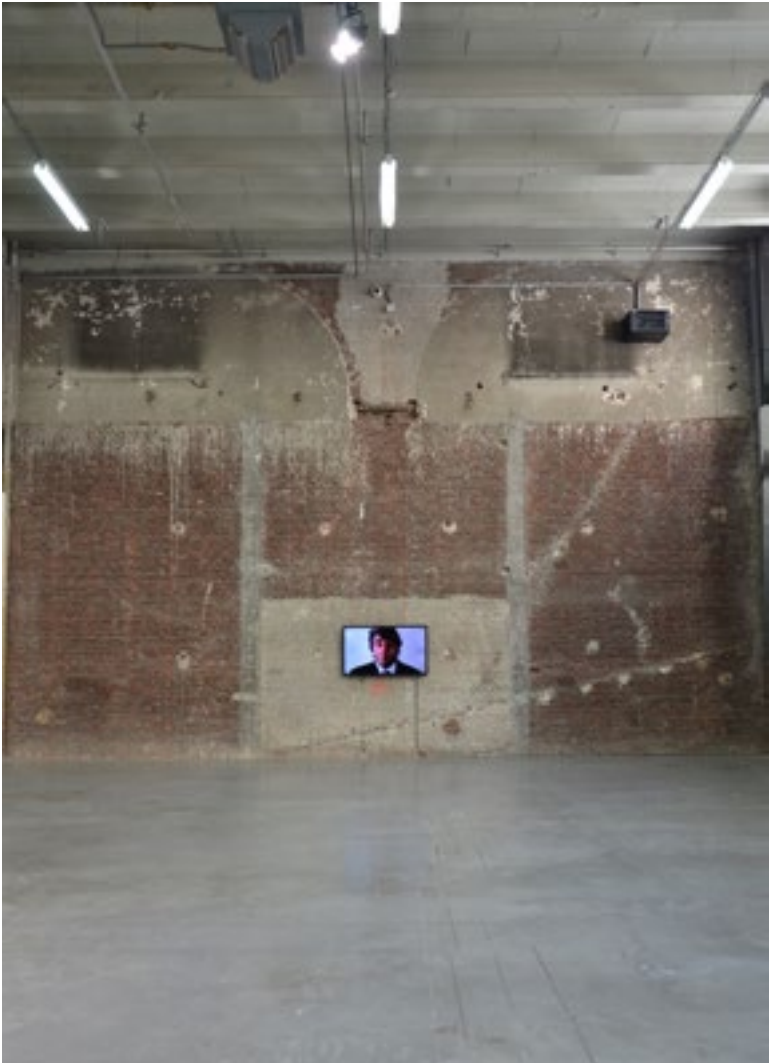
Front of house

The images presented here demonstrate the informal front of house areas that occupy zones within the existing building. Shown here are the bookshop area, informal meeting/gathering zone and the lobby with a site specific installation by artist Vivian Roubaud



Exhibition spaces

The images presented here demonstrate the variety of exhibition spaces within the building and the exposed structure and surface-mounted services for lighting and power.



// SCAI: THE BATHHOUSE

Synopsis

This small museum provides a good precedent for adaptive re-use of existing spaces to function as art galleries and museums within dense urban environments. Reserved for the display of contemporary art, Japanese and international, the small floor-plate of the gallery provides an adaptable and contemporary environment for a variety of art media to be displayed.

Architect: MZ Design Studio

Year Opened: 1993 (operating as an art gallery)

Location: Kashiwayu-Ato 6-1-23 Yanaka,
Taito-ku, Tokyo

Total Floor Area: 176 sqm (approx)

Exhibition Area: 84 sqm (approx)

Description

A small urban gallery, SCAI (Shiraishi Contemporary Art Inc.) the Bathhouse is a very small, urban gallery at the forefront of contemporary art in Japan. Previously a public bathhouse, the 200 year old structure is a contemporary art gallery known for introducing Japan's avant-garde artists, who led the genesis of Japanese contemporary art, to the world.

Despite its small exhibition space, the gallery has proven an important site for the display of emerging and established avant-garde contemporary art not just in Tokyo but greater Japan and the international art scene.

An interesting example in adaptive re-use, this gallery represents one of many small scale urban spaces that despite the limitations of the space take advantage of their location and siting within key urban areas. Storefront for Art & Architecture is the other gallery with similar architectural attributes presented in this report.

Collection / Art / Content

SCAI the Bathhouse is only an exhibiting venue and is not a collecting institution. As such it is only a representative venue for many contemporary artists.

Curatorial premise

SCAI has a history of large-scale monographic exhibitions presenting the work of artists such as Lee Ufan, Tadanori Yokoo, Toshikatsu Endo, Tatsuo Miyajima, and Mariko Mori. Apart from showcasing Japanese artists through their association with SCAI, international

artists such as Anish Kapoor have produced new series of works inspired by Japanese traditional culture and crafts. In addition to gallery exhibitions, SCAI has also been responsible for numerous site-specific projects, including public art by Tatsuo Miyajima and Louise Bourgeois at Roppongi Hills.

Civic presence

SCAI THE BATHHOUSE lies in middle of an art zone, conveniently close to Ueno where many museums and art universities. The gallery's opportune positions in the Yanaka neighborhood is framed by old houses and narrow alleys. SCAI the Bathhouse occupies the corner of one such narrow alleyway announcing its presence through the painted signage on a white wall. A small glass doorway serves as the entrance with no indication of its function as a gallery apparent from the street level. This institution is not reliant on a strong civic presence to attract visitors. Most visitors are tourists exploring Yanaka or art aficionados already familiar with its presence.

Architecture

The outside of the bathhouse still possesses its original tiled roof and towering chimney. A small doorway leads to a modest waiting area that serves as a buffer between the exhibition space and the street. Here the original wooden lockers of the former bathhouse are still present, a reminder of its former use. New timber joinery includes a small exhibition wall that contains catalogues and other publications relating to the exhibiting artists the bathhouse's previous publications. A step up into the galleries, the vast high-ceiling exhibition space is

// SCAI: THE BATHHOUSE

(continued)

revealed, natural light pouring from the high windows. A series of painted steel columns are the only elements interrupting an otherwise seamless space.

A small reception counter is integrated into the exhibition space and offers a small display area for art books and other publication material. Other back of house activities are located behind the large blade wall of the gallery including a small amenities area for the visitors. A small loading area occupies the area next to the entrance and works are transferred into the space through two large steel-framed glass doors.

Exhibition spaces

The exhibition space is a singular 84 sqm 'white-cube' space with a neutral colour palette and high windows bringing in ample daylight into the space. Part of the renovations to the original bathhouse has consisted of a new concrete floor with grey epoxy finish to the surface, an independent lighting structure on a custom pulley system and white plasterboard wall for a traditional wall hang.

Temporary freestanding walls have been previously constructed for other shows to further subdivide the singular exhibition space.

A suspended steel structure contains all the lighting infrastructure that can be maneuvered into position for different lighting requirements via a pulley system.

Materiality

The subtle and subdued material palette of the exhibition

spaces allows the space to read as quite grand despite its modest foot print. The white of the walls combined with the reflective floors and the natural light from the top windows add a sense of 'openness' to the space.

Landscape

The building envelope occupies the site entirely with no provision for outdoor area or landscaping.

Limitations

- the small floor plate poses limitations on the scale and type of art that can be exhibited.
- the high ceilings of the gallery have windows on top which restricts the gallery from having a complete black-box environment again restricting the type of work that can be displayed.





Exhibition space

The top image shows the wooden lockers that are the remnants of the old bathhouse and the bottom image shows a portion of the exhibition space to demonstrate its materiality, the suspended light structure and the high windows.

// 21_21 DESIGN SIGHT

Synopsis

This museum is a venue for temporary exhibitions to showcase design and engineering propositions. Unique to this museum is both the nature of the content on display but also Tadao Ando's approach to the siting of the museum within the dense urban condition of Tokyo. Partially embedded within the landscape and surrounded by a park, the building circulation is carefully considered to provide maximum space for the exhibition spaces in an otherwise tight building area. The circulation zones also provide informal zones for other activities relating to works on display such as projections or interpretive zones.

Architect: Tadao Ando Architect & Associates + Nikken Sekkei

Year Opened: 2007

Location: 9-7-6 Akasaka, Tokyo 107-6290, Japan

Total Floor Area: 1,732.61 sqm

Exhibition Area: 576 sqm

Description

A low-lying 2 storey structure located within a public park, the 21_21 Design Sight is dedicated to the display of temporary exhibitions concerning advances and innovations in the field of design.

Further to exhibitions, the Design Sight runs a parallel program that includes talks and workshops for all types of visitor groups.

The building provides an interesting model for the art gallery architecture both in its deviation from the presentation of art, diversity of functions and in the way it is sited within the city.

Collection / Art / Content

21_21 Design Sight is a non-collecting institution and serves only as a venue for exhibitions relating to design.

Curatorial premise

According to the mission statement of the institution the "21_21 DESIGN SIGHT was born as a venue to redirect our eyes to everyday things and events, and create various proposals and communicate numerous discoveries from the design point of view."

Civic presence

Located within a park and surrounded by trees, the building is a low-rise structure consisting of one ground floor and one underground floor. Reading as two identical glass pavilions separated by a pathway, the one

of the right is the 21_21 Design Sight while the identical volume to the left is a cafe/ restaurant. Most of the volume of the building is the roof form featuring giant steel plates that slope gently down to the ground while the rest of the building including its two main exhibition spaces are buried underground.

Architecture

Once inside, the visitor is greeted by a reception and a shop at the entry. A set of stairs lead the visitors into a triangulated double height space dedicated to workshops and other activities for the exhibition.

Adjacent to the activity area are the two main galleries and a triangular sunken courtyard open to the sky. The materiality of the spaces are consistently the same, mostly concrete and glass with some upholstered furniture and surface-mounted lighting tracks.

The circulation path is designed so that the experience of the building is a single-pathway navigation around the exhibition areas and other non-formal areas. The circulation leads the visitors through a series of dark and light spaces before leading them into the gallery spaces.

Exhibition spaces

First in the sequence are a series of small informal viewing spaces with multimedia projections followed by the first of the two big galleries. This space is essentially a 'black-box' multimedia space while the second and the larger gallery is an open plan 5m high space flanked by concrete columns to one side.

// 21_21 DESIGN SIGHT

(continued)

Gallery 1

This gallery has been lined with plasterboard walls, some sound proofing through thick fabric curtains and the placement of leather-upholstered furniture. The space is column-less allowing for multiple and uninterrupted projection surfaces.

Projectors and lighting are fixed to the concrete ceiling via surface mounted tracks and structure.

Gallery 2

The larger of the two galleries is a rectangular space with columns occupying the periphery to minimise interruption to the space. At 5 metres high the space is suitable for a variety of exhibition content and can be subdivided to create a series of smaller spaces. All the lighting is provided via surface-mounted tracks.

Other galleries

Two smaller low-height gallery spaces adjoin Gallery 2 and offer some wall space only to works on display.

Landscape

A well kept public park with flower beds, furniture and flanked by tall trees at the perimeter serves as a buffer between the city and the 21_21 Design Sight. Visitors entering and exiting the gallery have an opportunity for rest here.

Sunken Courtyard

Embedded within the gallery complex is a triangular

sunken courtyard open to the sky. With no soft landscaping and outdoor furniture this space is not frequently used by the visitors.

Materiality

The two predominant materials used in this gallery are concrete and glass. Whilst this provides for a consistent aesthetic experience of the space, the concrete surfaces pose an important challenge for a space with constantly changing exhibitions and the associated infrastructural requirements.

Limitations

- The initial shop design was planned as an open plan space which the tenants have subsequently partitioned from the ticketing areas. This makes for a very restricted entry space.
- The sunken courtyard has been given ample floor space within the greater gallery complex but a lack of soft landscaping, furniture or any planned activities makes for an uninviting space for visitors
- Concrete as the predominant material treatment to the galleries makes for a messy ceiling space as more tracks are surface-mounted to the concrete ceiling and floor to accommodate the infrastructural requirements of each exhibition. The concrete also creates acoustic issues especially in instances where multimedia content features heavily in an exhibition.

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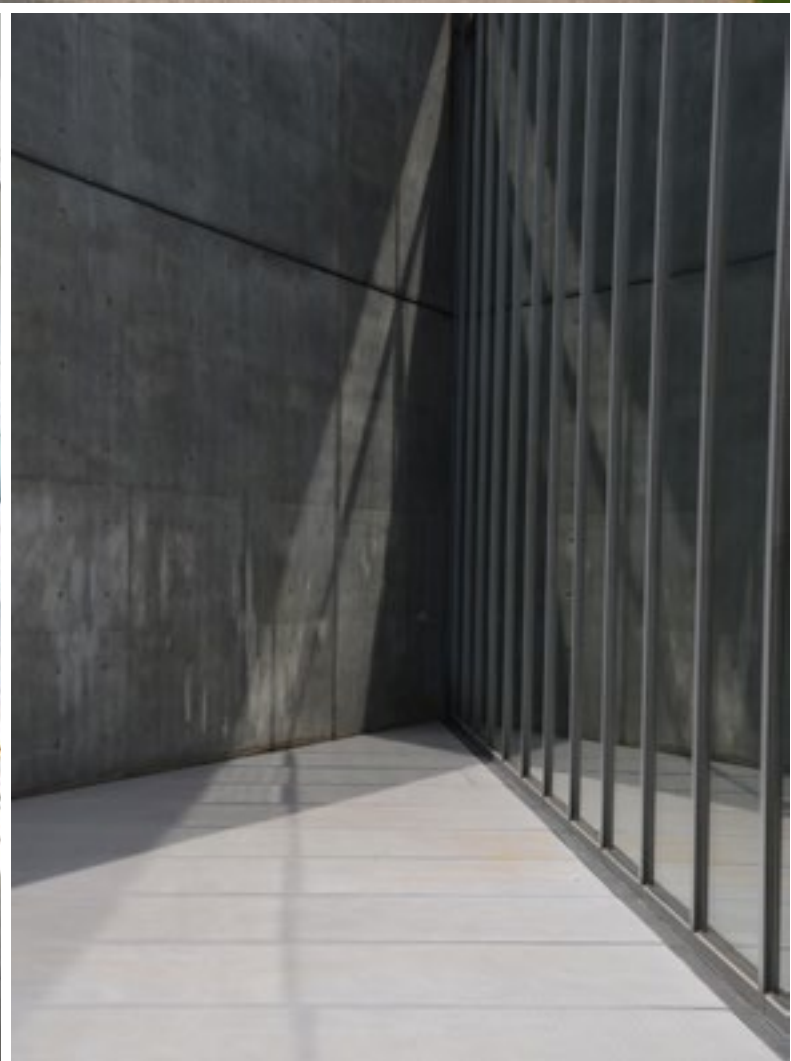
“21_21 Design Sight will also serve as an antithesis to the Japanese cities of today that have all been created haphazardly with an emphasis on economic efficiency to the detriment of everything else. My participation in this project is based on the recognition that we need to do something to make our cities more beautiful.”

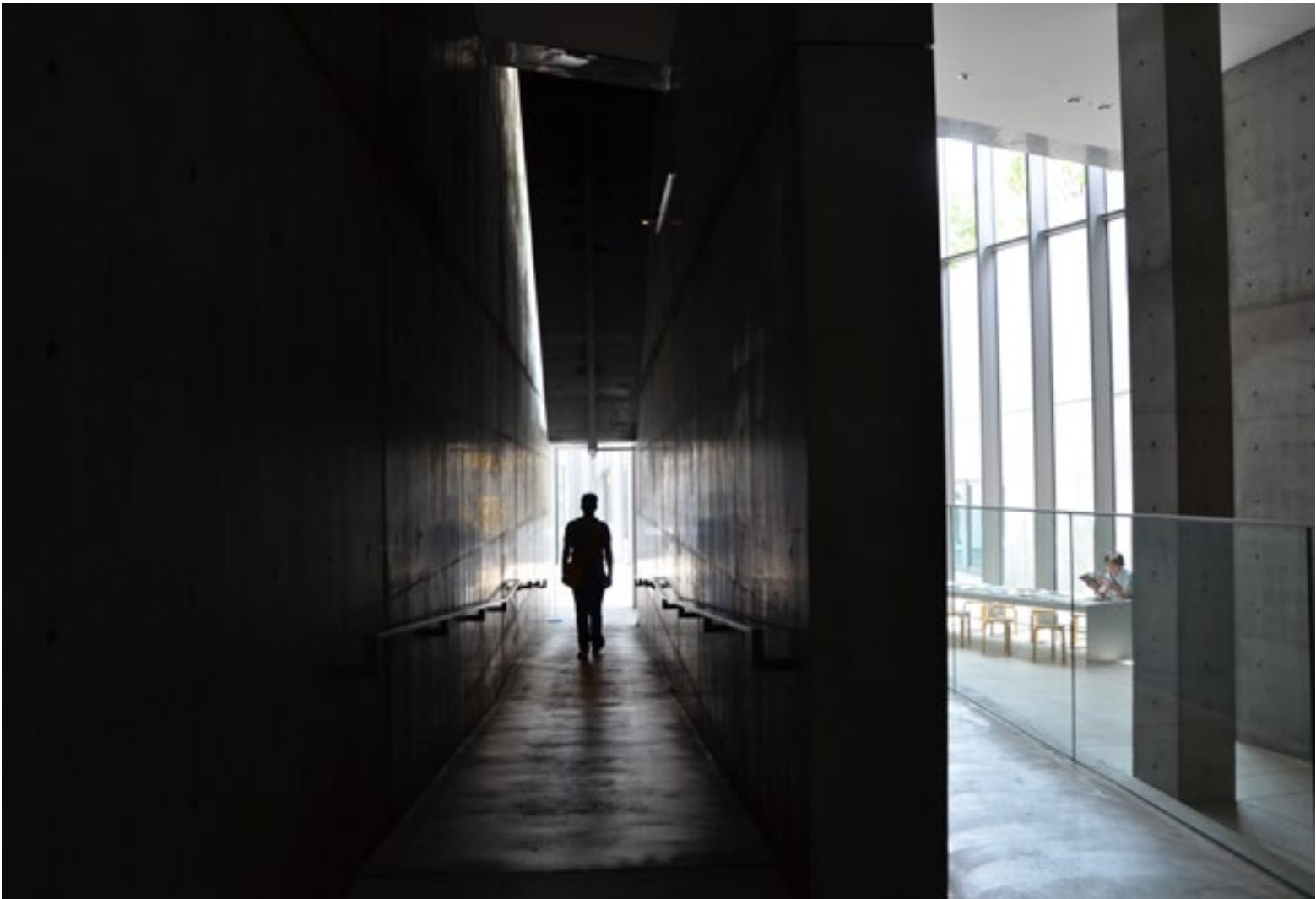
- Tadao Ando,
architect, 21_21 Design Sight

“Ando,” 21_21 Design Sight, accessed June 22, 2017,
http://www.2121designsight.jp/en/program/ando_ando.

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Exhibition spaces

The top image shows the first floor exhibition areas and demonstrates the materiality of the spaces.

The two images to the left demonstrate the double height multimedia space and the circulation zones.

// SWITCH HOUSE -TATE MODERN

Synopsis

The latest art tower providing maximum space on a tight building site, the Switch House, provides a compelling example in vertical planning. The vertical circulation spaces have been expanded to provide zones of rest for visitors to compensate for the lack of civic space for visitors. The latticed brick cladding provides moments of light-play in an otherwise stark industrial environment. The industrial palette utilised everywhere in the building continues into the exhibition spaces imbuing the spaces with a sense of industrial robustness to suit the materiality and scale of works on display.

Architect: Herzog and De Meuron

Year Opened: 2016

Location: Hopton St, London SE1 9TG, UK

Total Floor Area: 23,600 sqm

Exhibition Area: 5,300 sqm (approx)

Description

The Switch House extension to the Tate Modern, marks the latest development in the expansion of the institution with the 10 new storeys adding 60% more floor space as well as completing the site's transformation into an accessible public art gallery and cultural forum.

The monolithic tower of bricks sits on top of three underground concrete spaces reserved for installation and multimedia art. Formerly oil tanks, these cavernous spaces were converted into functioning gallery spaces by Herzog and De Meuron in 2012 prior to the development of the Switch House.

Collection / Art / Content

Tate holds the UK national collection of British art from 1500 to the present day and international modern and contemporary art. The collection is comprised of all media, from painting, drawing, sculpture and prints to photography, video and film, installation and performance. The Switch House was commissioned to provide a series of adaptable spaces suitable for the display of contemporary art from 1960 onwards.

Curatorial premise

While the traditional curatorial direction of Tate has focused on art from Western Europe and North America, over the last 20 years, it has expanded its collection of modern and contemporary artworks to include works from more diverse geographic regions such as Latin America, Africa, Asia Pacific, Eastern Europe, the Middle

East and South Asia.

The Switch House encapsulates the Tate's greater curatorial agenda of representing art from a diverse range of geographies and practitioners with the spaces in the Switch House reserved for art from 1960 to the present day. Additional to this, the collection hangs in the Switch House also aims to have an equal gender representation in each exhibition.

A series of specific cultural programmes with contemporary artists and creative communities from various regions of the world feeds back into Tate's greater agenda of housing and representing the outcome of such events within the gallery spaces. Additional to the galleries, the ancillary spaces within Switch House cater to such events.

Civic presence

A carapace of meshed bricks clad a torshioned pyramid from that rises to 11 storeys. Neatly grafted to the structure of the existing Turbine Hall, the new structure honours both the scale and materiality of the existing building as it rises to match the height of the new city towers that surround it.

Both the height and the monumental scale provide a visibility to the new structure from several vantage points across the city of London.

Architecture

Level 0: The Tanks make up the base level galleries of Switch House. Although developed separately,

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“Level three is slightly lower ceilinged and is divided into rooms. I say rooms, because they have the intimacy of rooms, but they don’t have the boxiness of the little rooms of the Boiler House. And the reason for that is that they have much wider entrances, so they’re not even doorways. It’s like a labyrinth of spaces. They’re generous—you can see from space to space, you never feel confined in a room—but it will mean that you can articulate a series of works that need a bit of containment, whether they are smaller scale, groups of photographs or installations.”

- Frances Morris, director, Tate Modern

“Global and industrial: the concept behind the new Tate Modern,” The Art Newspaper, last modified July 17, 2016, <http://theartnewspaper.com/reports/tate-modern/global-and-industrial-the-concept-behind-the-new-tate-modern>.

the works on display at Tank galleries often relate curatorially to exhibitions staged on upper level galleries.

Level 1: Level 1 spaces are connected to the Turbine Hall via a pedestrian bridge and are dedicated to a shop and bar.

Level 2: This level is reserved for collection displays and is comprised of one large uninterrupted gallery space that can be further sub-divided, through temporary walls, to make smaller exhibition spaces. It is more or less of the same size as a wing in the Boiler House. This approach allows for a very flexible gallery configuration allowing it to expand and contract on exhibition by exhibition basis.

Level 3: On level 3 the floor plate decreases and the gallery spaces are a series of smaller exhibition spaces with comparatively lower ceilings. As a result the space is also lower in these zones creating an intimate series of labyrinthian exhibition ‘rooms’.

Level 4: Collection displays continue on to level 4. This level is comprised of two well proportioned exhibition spaces. Both spaces have floor to ceiling windows to the landscape outside, framing views of greater London beyond. While the internal spaces are occupied by art, often large sculptures or installations, the periphery of these art spaces become windows on to the city.

Level 5, 6, 7, 8, 9: These levels getting progressively small in floor plate and are dedicated to the Tate Exchange program (level 5), Event space (level 6), staff and administration area (level 7), member’s room (level 8) and a restaurant (level 9) culminating on level 10 roof

deck / viewing platform offering majestic views of London city on three sides.

Exhibition spaces

The materiality and scale of the exhibition spaces on Level 1, 2, 3 and 4 compliment the materiality and ambition of the most of the collection works on display.:

- On level 2, the galleries embody an industrial aesthetic of rough-hewn timber floor boards and an exposed network of services that includes painted structural beams, hydraulic pipes, fluorescent batten lighting, painted A/C ducts and other services. The combination of materiality and a consistent/ cold lighting strategy imbues the space with a sense of industrial robustness and is a subtle dedication to the site’s industrial past.
- On level 3, a series of wide entry ways transition the visitors from the generous, light-filled break-out lobbies into a series of intimate exhibition spaces. With a more tradition interior space and controlled lighting these spaces offer a variety of configurations for the display of smaller-scaled works from the Tate’s collection and the planning helps establish a narrative, if needed, for a singular exhibition.
- On level 4, the gallery spaces are more restrained in revealing the services, instead the spaces here are like most tradition white cube spaces found in other art galleries. A series of translucent panels provide diffused light into the space. The volume of the galleries are consistently the space with generous widths and heights (with 5m high ceilings) providing much needed space around contemporary works of art that are, more often

// SWITCH HOUSE -TATE MODERN

(continued)

than not, huge in scale. The floor to ceiling windows frame key views of the city whilst also providing flexibility for light control via blinds that can control daylight if needed for conservational purposes.

Public space / Landscape

Tate Modern is a best case example of successful adaptive re-use and of building in a high-density urban area. As such there is not much landscape around either buildings. A small lawn fronts the Turbine Hall and provides on odd-occasion, weather permitting, a place for visitors to sit. The Switch House has no landscaping around it with the only open area being a hard-surfaced concrete and tarmac plaza that performs the triple function of allowing trucks to arrive to the loading dock, a sparse public seating area and an open seating area for the cafe that spills onto this open plaza.

The internal lobbies of the Switch House compensate for lack of public space external to the building. The lobbies adjoining the gallery spaces boast of high ceilings, integrated and loose furniture and ample daylight to facilitate gathering and rest between exhibits and between floors.

Sitting niches within the lobbies (that are well utilised) and the popular viewing deck on level 10 instill a sense of ownership and engagement with the building. In doing so the building responds to the growing need for socio-spatial zones required of contemporary art institutions. Dedicating such a large amount of public space for visitor engagement, leisure and comfort affirms Tate Modern's ongoing global legacy as one of the leading public art forums and an engaging public space.

Materiality

Honouring both the buildings industrial past and the Giles Gilbert Scott's Turbine Hall, the materials palette is comprised robust elements such as concrete, brick, rough-hewn timber and exposed steel infrastructure. As a consequence the building is imbued with a sense of timelessness.

All services doors such as lifts, fire cupboards and other ancillary functions are painted black whilst the services infrastructure within the gallery spaces are painted white, further adding to the austere functional aesthetic of the building.

Limitations

- The twisting form and the shrinking floor plate makes the vertical navigation disorienting for visitors. Added to this the lift core is often tucked away from main pedestrian thoroughfare adds to chaos of vertical navigation
- The loading dock is located within the only open plaza that adjoins the building. The everyday functioning of vehicle arrivals is witnessed by visitors from the level one cafe and seating area opposite.
- The connection point between Turbine Hall and the Switch House is not obvious especially if entering via the Tanks or through level one side entry.
- The exit from Tate is onto the public plaza (mentioned above) and is not considered as a greater part of its architectural strategy in terms of how it establishes a civic engagement with the city on the ground level.

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“The two buildings are knit together in a carapace of bricks that brings together very profoundly different architectural styles that speak to different world views and different times. The building sits in a landscape that also demonstrates several hundred years of urban revolution, clashes of cultures but spanning the whole of south London representing a cosmopolitan London.”

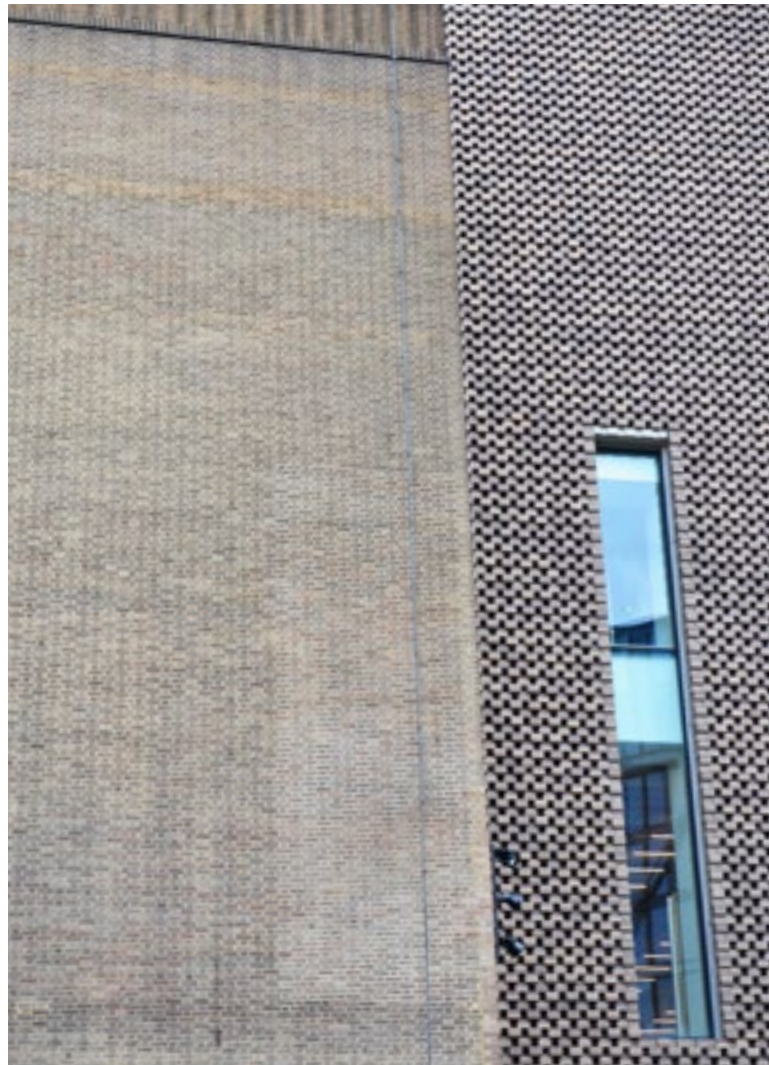
- Frances Morris,
director, Tate Modern

“Frances Morris, Director, Tate Modern,” MCA, accessed June 22, 2017, <https://www.mca.com.au/events/international-keynote-address-frances-morris/14625>.

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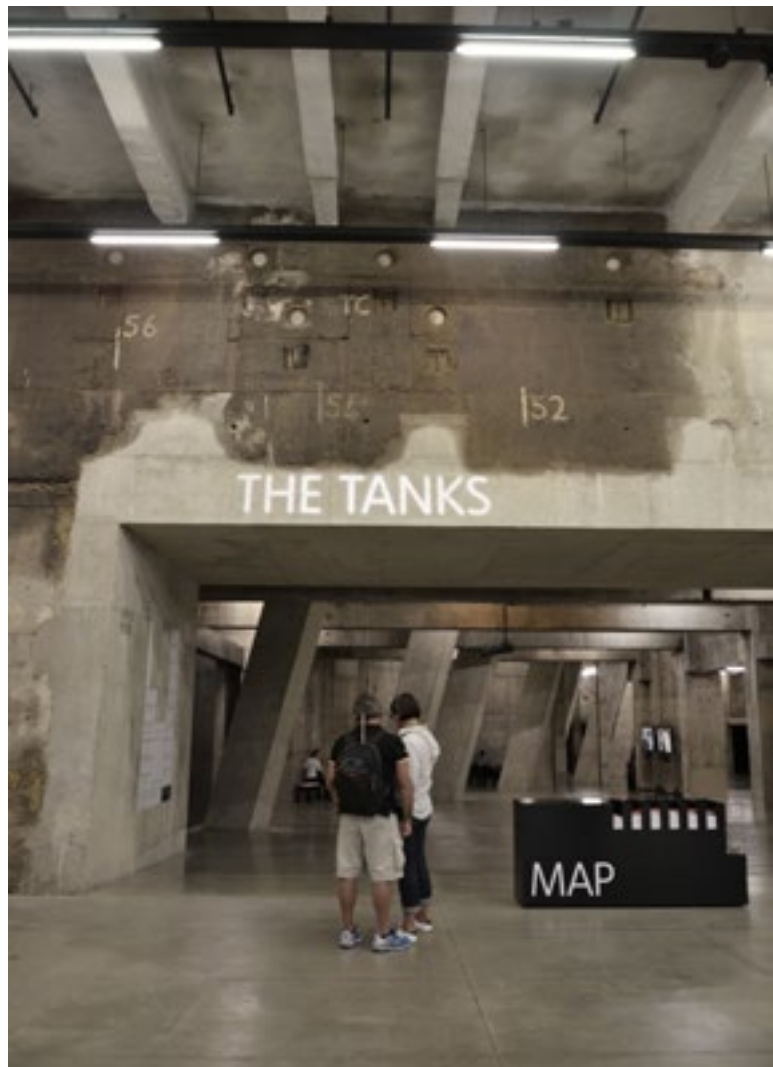






Facade & structure

The brick lattice work carapace of the build sits over a layer of concrete sub-structure and responds to the original brick work of the Giles Gilbert Scott building. Image on top left illustrates the careful material and structural grafting of the new building to the original Turbine Hall facade.



The Tanks

The conversion of the Tanks precede the design and construction of the Switch House. But accessing Switch House form this level sets up a mood and narrative to the architectural language of Switch House on the floors above.

The Tanks still bear the evidence of their past use through the markings on the surface & the smell of oil still lingering.







Galleries

The top two images illustrate the interior spaces of the galleries on level 4. With high ceilings and generous floor area and controllable lighting, the spaces are reserved for large scale installations.

Image to the left is an example of level 3 gallery space with smaller floor spaces and lower ceilings. Materiality is consistent across both levels.



Lighting and materiality

The preceding pages illustrate the consistent materiality and lighting strategy. Arup (lighting engineers) implemented low energy fluorescent and LED lighting throughout, including spotlights for the gallery spaces that use less than half the energy of traditional halogen spots. The floors of the gallery are from rough-hewn timber boards whilst exposed services infrastructure is painted white.



Roof deck

The two images to the left are of the public roof deck. Once the visitors have trekked the 10 floors from the Tanks, they are rewarded with majestic views of London on 3 sides. This space illustrates one of the advantages of a gallery as an urban tower.

// THE MET BREUER

Synopsis

The Met Breuer provides a best practice example of restoration to an existing modernist gallery to comply with current museum standards. The restoration to the original Met building has involved upgrade to the front of house areas, flooring, walls, the circulation through the various floors but importantly structural, infrastructural and services upgrade to the exhibition spaces.

Architect: Marcel Breuer (original building) with renovations by Beyer Blinder Belle

Year Opened: 1966 (original) 2016 (renovated building)

Location: 945 Madison Avenue, New York

Total Floor Area: 7,618 sqm

Exhibition Area: 2,694 sqm

Description

One of the early models for a vertical gallery, the Met Breuer is a new venue for the Metropolitan Museum of Art's modern and contemporary exhibitions. Additional to exhibitions it houses a variety of art-related programs that includes artist commissions and installations, performances, an education program and artist residencies. The Met Breuer was formerly known as the Whitney Museum of American Art. Designed by Marcel Breuer in 1966, the iconic building was home to Whitney's collection of American art before they relocated to their new premises designed by Renzo Piano in Chelsea, New York.

Still retaining its iconic presence on Madison Avenue, the interior spaces were renovated by Beyer Blinder Belle. The renovations involved subtle spatial and material changes to honour the legacy of the existing building as well as services upgrade to lighting, lifts and mechanical.

With a renewed curatorial agenda, promoting the museum's grand yet lesser known collection of modern and contemporary art, the Met Breuer reopened to the public in 2016.

Collection / Art / Content

The Met Breuer is a venue for showcasing both thematic, group and monographic exhibitions from The Met's greater collection of modern and contemporary art. Additional to this, commissioned installations from leading contemporary artists form part of the annual exhibitions. In the last year since its opening in March 2016, the gallery has hosted a variety of exhibitions

including a monographic exhibition on the work of American photographer Diane Arbus, a thematic exhibition of works titled 'Unfinished', a commissioned work by the contemporary Japanese artist Tatsuo Miyajima to accompany the exhibition 'Unfinished'

Curatorial premise

Breuer's modernist vision becomes an apt space for the Metropolitan Museum of Art's renewed curatorial embrace of works of modernist and contemporary art. The new venue serves to separate it from the collection that has come to be associated with the Met brand: historical artefacts from great civilisations, works of 'Great Masters', fragments of Egyptian temples etc.

Civic presence

Met Breuer retains the iconic facade of stepped granite clad concrete structure. In a gesture countering the approach taken at the Switch House, the floor plate and ceiling height increases with every level. The building externally reads as a series of stacked cubes, progressively increasing in size and volume. The last floor cantilevers above the pedestrian footpath.

Visible from several vantage points, the museum occupies a corner block, flanked on one side and the back by modest sized 5 storey buildings.

The iconic windows that puncture the facade hint at the internal life of the institution and incrementally increase in size to match the volume of space they are located in. Within the galleries these window frame key vistas within the city, connecting the visitor back to the outside.

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“It is a bit more of a Rubics cube then most spaces I have worked with. The opportunity is really that those windows, and the infinite feel of the gridded space, as well as the materiality of the building become a part of the show, and if done right add a real sense of gravitas to the presentation.”

- Brian Butterfield, senior exhibition designer at Metropolitan Museum of Art

Interviewed by Belqis Youssofzay.
Email interview, November 14, 2016.

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The grey slate facade brings a textural and material distinction to the row of buildings located along Madison Avenue.

Architecture

The restoration is subtle and honours Marcel Breuers vision and approach. The restoration work was directed toward four key components of the building:

- Gallery spaces: the original gallery spaces were restored both materially and infrastructurally (upgrade of services such as power and lighting).
- Services upgrade: improve the overall building services system to address current services standards. The most significant infrastructural change regarding the exhibition spaces was the upgrade to mechanical systems allowing for a more consistent temperature and humidity levels in the galleries.
- Circulation: establish a clear circulation path through the building to ensure better visitor flow in a relatively small floor-plate.
- Create better amenities and clear front of house areas. This included re-planning the ticket desks and relocating the shop to establish a more open and generous entry lobby space.

Exhibition spaces

- First floor gallery: Adjacent to the lobby, a small project space showcases new commissions from contemporary artists. For the first commission since the opening, Japanese artist Tatsuo Miyajima created a specific work to coincide with the first thematic show ‘ ‘Unfinished’ on display on first floor and second floor gallery space.

- Second floor gallery: Visitors can either take the original stairs or the single lift up to the first floor galleries. With a lower ceiling height and with intimate proportions, this gallery lends itself better for smaller scaled works. In the first sequence of exhibition, a showcase of Diane Arbus photographs were presented here. The gallery space was divided into 3 spatial zones. A series of narrow temporary blade walls anchored to the concrete coffered ceiling allowed for an engaging exhibition but also provided a clear circulation path around the walls. The second and third exhibition zones were created using temporary wall constructions to and whilst one was used for an activity area, the third space was a smaller room containing 9 key photographs from Arbus’s portfolio.

- Third floor gallery: On this floor, the ceiling heights increase slightly from the first floor galleries. Here the proportions lend themselves to bigger exhibitions. A series of freestanding temporary walls with locations guided by the gridded coffered ceiling subdivide the column-less floor-plate.

- Fourth floor gallery: the ceiling height on this floor increases to over 5 metres. The grand proportions of this space lends itself to shows with sculptures. Temporary walls are used less on this floor due to structural implications of building temporary walls for such heights.

Generally the exhibition spaces have a consistent structural and material presence. The ceiling heights are the only major shifts in each space. As a consequence, the feature windows follow the volume of the space and bring in more daylight as visitors make their way up into

// THE MET BREUER

(continued)

the galleries.

The gridded coffered concrete ceiling (also an element at the Art Gallery of NSW) allow for spatial guidance for the location of temporary walls. Temporary walls often follow the lines of the ceiling grid. Here, the exhibition designer has devised a structure system that allows for narrower walls to be anchored into the ceiling.

A suite of mobile furniture brings consistency across the floors and don't detract from the viewing of art.

Materiality

Materiality is one of the key architectural attributes that affect the overall look and feel of the building as a gallery space.

The building's interior has all the hallmarks of a Breuer space: monolithic structures, minimal but robust material palette that create subdued atmospheres.

The material palette while minimal have a strong presence within the space. The original material palette includes gray granite to the façade, board-formed and bush-hammered concrete walls, bluestone floors, walnut parquet floors (on level 2) timber features via joinery and handrails in the staircase. Though the combination of tonal consistency and textural irregularities of the concrete honour Breuer's vision, add a strong visual presence to spaces that sometimes might benefit from a less textural presence.

Limitations

- Despite new way-finding signage and re-planning of the lobby, circulation remains an issue for the gallery. Serviced by one lift and one staircase, visitor circulation across various galleries is stalled. Originally the building was designed to receive 1000 people per day but over the years visitation has increased to more than twice the number.
- The materiality of the original structure is often too dominant an element for exhibitions. The texture of the flooring and ceiling always sit in contrast to the pristine white walls.
- Freestanding walls are often structurally challenging to place in spaces with higher ceilings. As a consequence the walls have to be of certain thickness to be stabilised or planned as a T shaped junction with another wall to allow for a thinner depth.
- The art lift or services lift was intended by Breuer to be also a public lift which means even now, the transport of art from the loading dock up the galleries requires the lift to stop on every level. Logistically this presents an issue for the scheduling of install and de-install periods.

For more on the Met Breuer, please read the interview conducted with Brian Butterfield, Architect/ Senior Exhibition Designer at Metropolitan Museum of Art.

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“In March 2016, The Metropolitan Museum of Art will launch its first season of programming at The Met Breuer, inviting visitors to engage with art of the 20th and 21st centuries through the global breadth and historical reach of the Museum’s unparalleled collection and scholarly resources. At the same time, the Met will reveal a restored architectural icon, invigorated by renovations that will support a fluid, integrated experience of art and architecture.”

- Metropolitan Museum of Art

“Metropolitan Museum of Art Launches The Met Breuer in March 2016 Expanding Modern and Contemporary Art Program,” Metropolitan Museum of Art, accessed June 22, 2017, <http://www.metmuseum.org/press/news/2015/met-breuer-august-update>.

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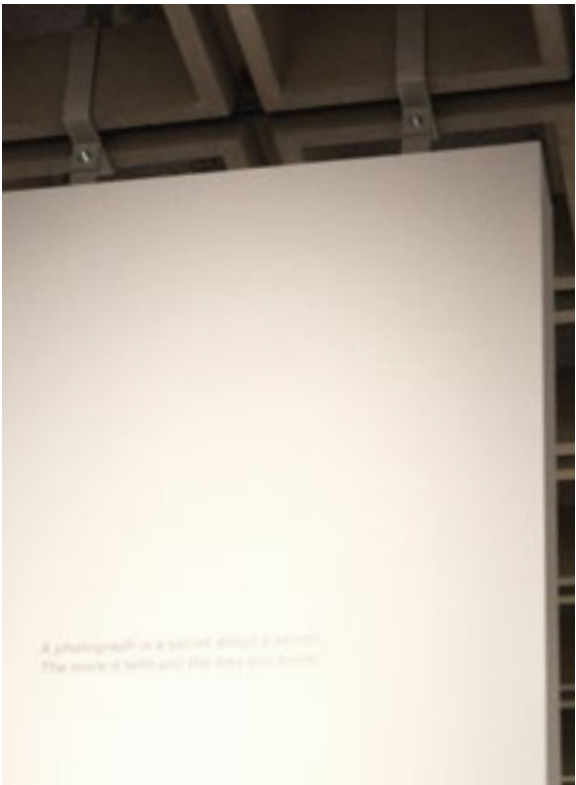






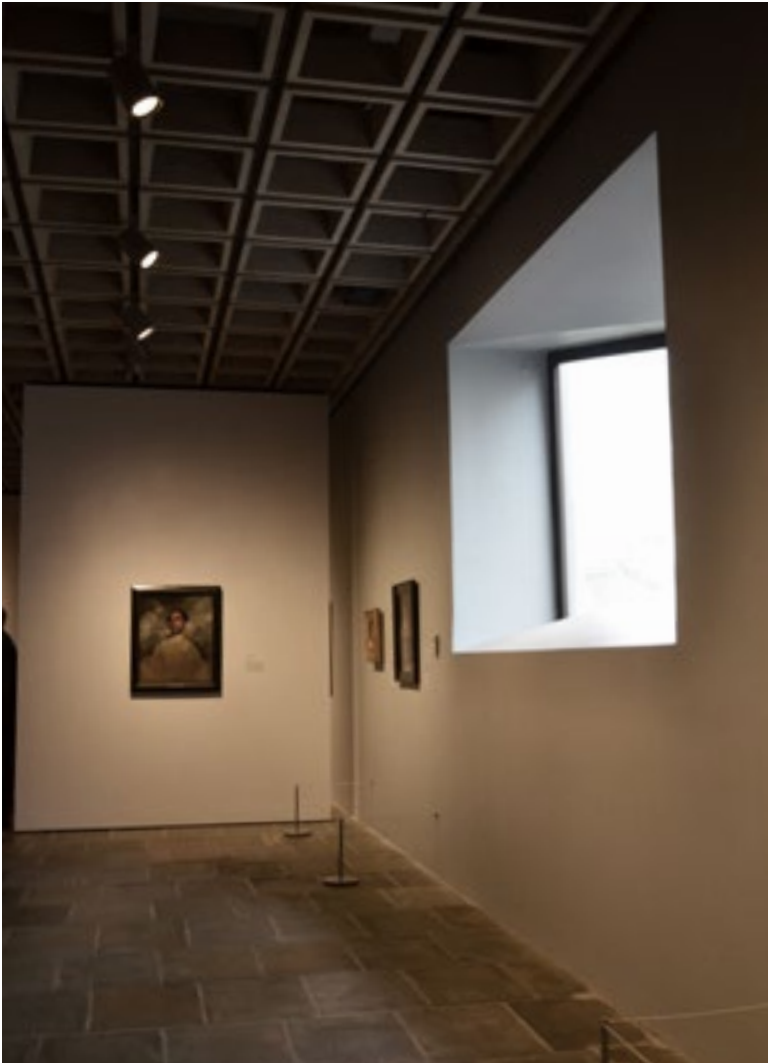
Materiality & Detail

The above images illustrate the material construct of the entrance lobby and vertical circulation. Marcel Breuer used bush-hammered concrete to outside of the galleries and to define thresholds from the vertical circulation spaces into the gallery spaces. Once within the gallery, the walls are lined with white plasterboard.



Second Floor Gallery

The images here illustrate the atmosphere of the second floor galleries indicating its intimate scale, the parquet flooring and the anchoring mechanism to suspend / anchor a series of narrow walls.



Third floor gallery

The two images to the left show the configuration of temporary walls on third floor. Here, the wall location is guided by the ceiling grid and the flooring changes from timber parquetry of level 2 galleries to bluestone tiles.



Fourth floor gallery

The images on the following pages show the configuration of walls on the fourth level. Here, the ceiling height increases dramatically allowing for larger artworks to be displayed. Ample daylight pours into the space through the floor to ceiling window.





// New Museum, New York

Synopsis

New Museum, New York, is a contemporary art gallery that provides a series of stacked 'white-cube' galleries on a narrow slot of land and makes a case for the design of vertical urban galleries in a dense and heavily built urban contexts. The double skin of the building negotiates the urban condition with the functional requirements of the gallery. The outer mesh skin presents a porous edge to the city whilst inner walled volumes provide enclosed and controlled spaces for exhibitions.

Architect: SANAA /Kazuyo Sejima and Ryue Nishizawa

Year Opened: 2007

Location: 235 Bowery, Manhattan, New York

Total Floor Area: 5,454 sqm

Exhibition Area: 1,217 sqm

Description

The New Museum of Contemporary Art, better known as New Museum, in New York is the latest in a series of contemporary galleries that makes a compelling proposition for dense urban areas. Slotted into a narrow lot of land (22m wide by 34m deep), the gallery's form, materiality and scale is derived from the fundamental challenges of the site. Similar in approach to Met Breuer or the Switch House that work with the restrictions of their site, this gallery too, navigates these restrictions through vertical/sectional planning and establishing a vertical series of spaces.

Rising as a stack of seven irregular boxes enveloped in white mesh, the New Museum rises to a height of 53 metres above street level, honouring the scale and presence of the neighbouring buildings along the street.

Sited on a former parking lot, this gallery makes a case for the design of urban galleries facilitating a cultural experience in a dense and heavily built urban context.

Collection / Art / Content

The New Museum is a non-collecting institution. When the New Museum was initially founded in 1977, the aim of the museum was to showcase contemporary works produced in New York since World War II. In its current venue and format as a non- collecting institution, New Museum continues to showcase the works of contemporary artists both local and international and serves only as a venue for the display of works spanning geographies and mediums (installation, sculpture, multimedia, painting, drawing etc)

Curatorial premise

New Museum continues to operate on the initial curatorial agenda established by its founding director Marcia Tucker who wanted to bring more visibility to contemporary art. Considered a venue for the showcase of contemporary art and incubator of new ideas the curatorial premise has expanded to foster engagement with artists, students and residents of the Lower East Side through a series of educational and community engagement programs

Civic presence

The New Museum is visible from some key vantage points approaching the Lower East Side. Seven irregular sized cubes sit within two buildings and are clad in a anodized expanded aluminum mesh that appears seamless and shimmering as it catches the sun. While the 7 volumes read as solid masses externally, internally, they allow natural light to penetrate the skin. Windows appear behind the delicate veil of the cladding to hint at behind this porous scrim-like surface

Architecture

The New Museum contains a diverse range of facilities across the 8 levels (1 level is underground) including a theater, five floors of gallery spaces, and a function space called the Sky Room offering panoramic views of lower Manhattan.

The planning of these facilities were derived from the tight zoning of the site allowing limited possibilities of

// New Museum, New York

(continued)

play with the envelope.

The program of the museum is spread across 8 floors and 7 volumes and consists of a basement auditorium, an entry foyer with a bookshop pod, cafe, ticketing desk and a small project gallery, flexible gallery spaces from across 3 levels, an education center on the 5th floor, offices and administration on the 6th, a multi-purpose room, often used as a function space, on the 7th floor offering sweeping views over the lower Manhattan skyline and the last volume (8th floor) is reserved for the mechanical plant that services the building.

The loading dock is located on the entry level sitting adjacent to the entry doors, it is a small space for a truck to park and unload next to a goods lift (which is also the only lift in the building).

Exhibition spaces

The four exhibition galleries are located across four stories. These galleries are traditional “white cube” spaces with flexible floor and wall space for exhibiting a wide range of art.

The shifting of the “boxes” creates a gap between the volumes creating an opportunity for natural light to pour into the space. This strategy along with artificial track lighting in each gallery provides different lighting conditions suitable for the works on display. During the scholarship visit, these skylights were completely blocked allowing only track lighting to provide lighting to the works.

The floating concrete floor creates a 50mm gap all around the gallery space. Services such as power and

data can be reticulated into the floor space. This gap between the wall and the floor also provide a practical solution for the cleaning staff. The dust and grit is swept into this trough and can be easily vacuumed by the cleaning staff. In the past, this floor has been cut and drilled into for various exhibition requirements with great care given to not compromise the structural integrity.

The ceiling has expressed structure of beams painted white along with white track lighting. Combined with the flooring, the exhibition spaces are imbued with an industrial robustness that characterises much of lower Manhattan and as such these spaces provide a suitable background to most contemporary works on display.

Limitations

- There is only one lift to carry visitors up and down the building as well as transport art from the loading dock into the galleries. Due to the high visitation numbers and waiting time on the lift, the fire stairs have now been opened up as an alternative vertical path.
- Both the loading dock and the lift are limiting for the scale of art that needs to be transported to the gallery spaces.
- The ceiling heights being quite high don't lend themselves well for the construction of freestanding temporary walls. Floor to ceiling walls are often anchored into the space via a T- junction wall construction or drilling into the floor slab.

For more on the New Museum, please read the interview conducted with Steve Harris, Facilities Manager at the New Museum.

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“We knew we could not maximize the entire site with solid architecture, we had to reduce the building’s mass somehow to create space between it and the perimeter. The solution of the shifted boxes arrived quickly and intuitively. Then through trial and error we arrived at the final, ideal configuration. Now we have a building that meets the city, allows natural light inside, gives the Museum column-free galleries and programmatic flexibility, and expresses the program and people inside to the world of New York outside.”

- SANAA,
architects, New Museum

“Building,” New Museum, accessed June 22, 2017,
<http://www.newmuseum.org/building>.

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Exhibition Galleries

The images on the preceding page illustrate the exhibition conditions in the galleries with a variety of wall configurations and lighting conditions. The images on this page show the typical concrete floor in the galleries, the view from the function space and the vertical circulation between 3rd & 4th floor.

// WHITNEY MUSEUM OF AMERICAN ART

Synopsis

The latest addition to the vertical museum typology, this museum takes advantage of its narrow corner site through strategic planning of the vertical exhibition spaces. A clear spatial path between the indoor and outdoor exhibition spaces provide a range of environments for the display of the collection. Within its exhibition spaces, the gallery is proposing large, uninterrupted and adaptable floor plates for the curators and artists to occupy and adapt in a myriad of configurations befitting the exhibitions.

Architect: Renzo Piano Building Workshop

Year Opened: 2015

Location: 99 Gansevoort Street, New York

Total Floor Area: 20,440 sqm

Exhibition Area: 4,645 sqm (indoor) & 1,205 sqm (outdoor)

Description

The Whitney Museum of Art's collection was founded in 1930. Seeking a more prominent presence Marcel Breuer was commissioned to design the galleries to house the museum's collection of 2000 works. Over the years as the museum's collection has grown a need for more space has led to a new building designed by architect Renzo Piano in the Meatpacking District between the High Line and the Hudson River. The new 'Whitney' building increases the Museum's exhibition and programming space to accommodate the now 19,000 works of modern and contemporary American art in the collection.

Collection / Art / Content

A private collecting museum with a growing collection of art, currently comprises more than 19,000 works of modern and contemporary American art.

Curatorial premise

The curatorial agenda is derived from the museum's collection of modern and contemporary American art including paintings, sculpture, multimedia, installation art, photography. The showcase and promotion of modern and contemporary art can be traced back to the Museum's founding curatorial agenda established in the 1930s.

Civic presence

The prominently asymmetrical form of the Museum, clad in light grey steel panels, shifts in prominence depending

on where you are approaching it from. From Gansevoort Street it presents a dramatically cantilevered form above which the main bulk of the building sits. When approaching from the Highline, the outdoor terraces with its industrial infrastructure of steel cladding and stairs presents a less bulkier, unassuming form

The design takes its strong form and materiality from the industrial character of the neighbourhood that include loft buildings (with external staircases), the Highline and the overhead railway.

Architecture

The new building has a total of 67,000 sqm space spread across nine floors. It is comprised of exhibition spaces (both indoor and outdoor) as well as an extensive educational programmes, public spaces, kids activity area, outdoor terraces, a shop, a cafe and offices.

Unique to the architecture of this building is a custom flood-mitigation system, which was designed while the museum was under construction. It was the consequence of the floods in 2012, the aftermath of Hurricane Sandy. The system's features a 7-tonne door designed by engineers as a water-tight latch. Additional to this the Museum's lobby is designed to be 3 metres above sea-level, to make it to be water-tight against a flood level of 5 metres. The high ceiling lobby is the result of these flood mitigation measures.

The rest of the eight-storey building is comprised of exhibition spaces (both indoor and outdoor) as well as an extensive program of education programmes. The exhibition zones include 3 storeys of exhibition

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space, a multimedia theatre for film, video and performance. Additional to the galleries, there is an education centre offering state-of-the-art classrooms; a 170-seat theatre facing the Hudson River; and a Works on Paper Study Centre, Conservation Lab, and Library Reading Room.

These ancillary spaces reflect the contemporary institutions' need for additional areas dedicated to non-exhibition activities.

Exhibition spaces

The exhibition spaces are a series of flexible and uninterrupted floor plates providing the curators the opportunity to sub-divide the space into a myriad of configurations to suit the exhibitions.

In total there is 4645 sqm of indoor exhibition space and 1200 sqm of outdoor and terraces facing the High Line. The first two exhibition floors (on level 3 & 4) are dedicated to permanent collection.

On the 5th floor a temporary exhibitions space provides a 1672 sqm of expansive column-less space, making it the largest column-free museum gallery in New York City. And on the topmost floor of the gallery 418 sqm gallery brings natural light through sawtooth skylights.

Designed by RPBW engineers, the unfinished gridded ceilings provide anchor point for hanging movable walls in myriad configurations as well as establishing zones for mechanical services and lighting.

The ceiling heights emulate the heights of the previous

Breuer designed building; 5.3 metres for galleries on the fifth and sixth floors and 4.5 metres on the seventh floor.

Breakout spaces : patrons are drawn to either end of the fourth and fifth floor, where floor-to-ceiling glass and comfortable seating offer views of the Hudson River and New Jersey to the west and the city to the east. Furnished with leather sofas and charging stations most patrons can be seen relaxing in these area adjoining the main gallery spaces.

Materiality

The materiality of the new galleries borrow from the old the neighbourhood loft spaces, with windows at both ends. The raw materiality of the gallery spaces, too, reference the site's industrial past. The weathered heart pine flooring is reclaimed from two separate factories in the Northeast and the South, whilst the unfinished steel ceiling infrastructure recall the nearby rail lines.

Landscape/ public space

The outdoor terraces replete with sculptures, both temporary and permanent, provide a zones of rest and gathering especially in warmer months. Their proximity to gallery spaces also establishes key lines of sight to work inside. On the ground floor, the dramatically cantilevered entrance along Gansevoort Street shelters an 790 sqm outdoor plaza adjacent to a public cafe and several other restaurants. This area provides a public gathering space for visitors descending or ascending the southern entrance to the High Line.

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Limitations

- The external plaza is not a well considered public space. Sited under the building cantilever, its a site that is too exposed to be used for long durations.
- The small entry atrium space has been programmed for too many functions (ticketing, bookshop, cloakroom waiting area for lifts) and can be quite overcrowded during peak seasons.
- The exhibition floors though expansive and designed for a flexible configuration dictate a particular layout and planning type that imbue the space with a uniformity and consistency of wall placement akin to an art fair rather than a museum experience.
- The placement of temporary walls in most instances lacked a coherent circulation and offered, in some instances, a maze-like experience. This, again, is the consequence of an open plan space with circulation paths not considered or designed to work with a myriad of spatial configurations
- Due to the requirement for expansive floor space, the galleries do not have a designed entry spaces. The lifts open onto the gallery floor leaving the designing and planning of an introductory space with the exhibition designer and curators.
- Circulation between the floors is primarily through the lifts but there are also stairs connecting most of the floors both internally and externally. The external stairs whilst easing the traffic on the lifts and taking patrons to external art sites is not an ideal vertical circulation path in all weathers and can lead to overcrowded lifts.

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“At this gathering place beneath the High Line, visitors will see through the building entrance and the large windows on the west side to the Hudson River beyond. Here, all at once, you have the water, the park, the powerful industrial structures and the exciting mix of people, brought together and focused by this new building and the experience of art.”

- Renzo Piano,
architect, Whitney Museum of American Art

“The Building,” Whitney Museum of American Art, accessed
June 22, 2017, <http://whitney.org/About/NewBuilding>.

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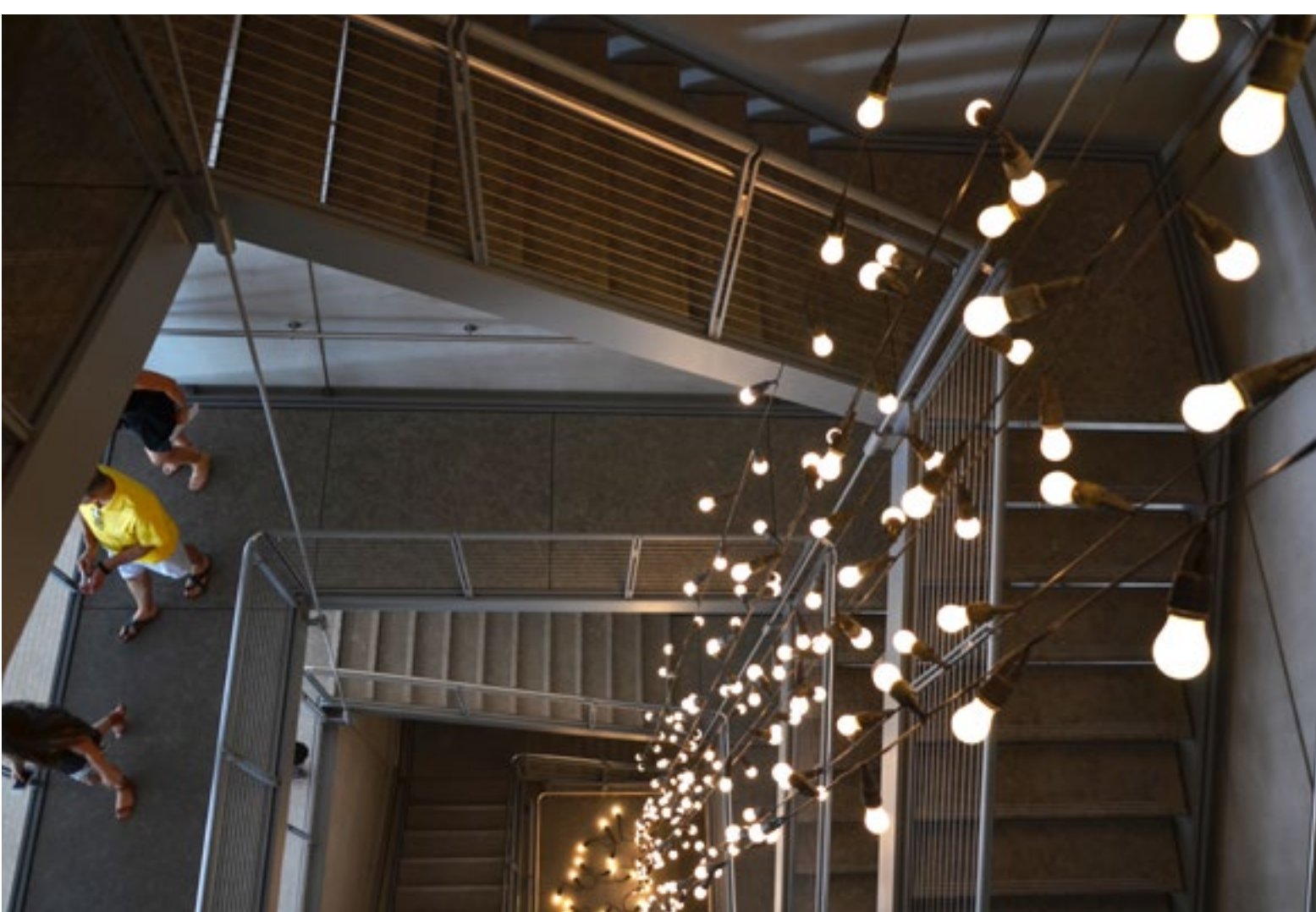




External spaces

The images on this page show the external character of the building and the outdoor art terraces and the connecting stairs. These spaces provide additional site for art and public gathering.





Exhibition spaces

The image above shows a glimpse of the internal staircase and the image to the left shows the breakout space on level 5 that adjoins the galleries and offer expansive vistas of the city's east and west at either end.

// STOREFRONT FOR ART & ARCHITECTURE

Synopsis

This small gallery presents a compelling urban design proposition that takes advantage of its narrow site. The design re-thinks the planning of this space by extending the gallery past the narrow triangulated floor plate of an existing shop. The facade panels provide different opening configurations allowing the space to extend itself out on to the street but also creates a dynamic street front establishing a strong urban presence and sight-lines.

Architect: Vito Acconci & Steven Holl

Year Opened: 1993 with restoration work completed in 2008

Location: 97 Kenmare St, New York

Total Floor Area: 89 sqm

Exhibition Area: 80 sqm

Description

The storefront for Art and Architecture at its core is a very compelling and innovative urban design proposition. Located on the intersection of 2 avenues in lower Manhattan and at the edge of three distinct neighbourhoods, Chinatown, Little Italy and SOHO, the gallery reconsiders the façade of a shop as a series of dynamic openings providing porosity between the interior and exterior of the building.

A collaborative endeavour between Steven Holl Architects and Vito Acconci, the edge and the façade negotiate the territories between the interior and exterior of a gallery space.

The gallery space itself is a narrow triangulated interior space (only 89 sqm) suitable for small exhibitions, however when all the façade panels are positioned in their open position, the space opens out the interior space of the gallery expands out on to pedestrian sidewalk.

Collection / Art / Content

A non collecting institution committed to showcasing innovative approaches in art, architecture and design.

Curatorial premise

With an agenda to promote innovations and propositions from thinkers and practitioners from the realm of art, architecture and design, the gallery also hosts film screenings, design conferences, artist talks and performance. The gallery also publishes catalogues

and books to accompany thematic exhibitions.

Civic presence

Occupying a street corner at the intersection of 2 key avenues in Soho district, the facade, in both open and closed configuration provides a dynamic front to the city. When in open configuration the lines of sight from the city and the street continue into the interior space of the gallery. The structure of the facade combined with material and colour treatment applied to both the interior and exterior, create a dynamic street front, establishing a strong urban presence.

Architecture

The design of the gallery hinges strongly on the façade to establish not only a strong and dynamic relationship with the outside city but also establishing a clear set of planning guidelines for the interior of the space. That is, that the depending on the opening angle of each hinged panel, interior space has to be negotiated for the display of works.

The structure of the façade is a carefully designed series of hinged panels. Made from a hybrid material comprised of concrete and recycled fibres, the various shapes ascribed to each panel adds to the dynamism of the space when opened and closed. When entirely closed, the façade turns into a wall of strong geometric lines that give the otherwise planar concrete some street presence. For certain exhibitions, artists and designers are invited to propose something for this wall. Examples include graphic/text proposition or a colour proposition.

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The sparse interior has a restrained material palette comprising of concrete floor with paint finish, singular white wall and painted structural system of steel beams and columns.

The space is not serviced by air-conditioning and the operable panels assist with natural ventilation on a hot summers day.

Exhibition spaces

The exhibition space is a small, singular triangulated floor plate with a restrained material palette. A single wall offers space for wall-mounted works and the floor space, though small, offers space for some robust mobile display units.

Small and modular display units are made of powercoated black steel to work with the narrow space and the wheels allow for easy configuration. The furniture adds to the robust materiality of the gallery that references the industrial character of the area.

Exhibition lighting is achieved through LED track lighting and daylight is managed through maneuvering of the hinged panels.

Materiality

The composite concrete facade is the predominant material element in the space. Depending on the treatment of the facade (bare concrete, graphic or paint application), the interior reading shifts as the tilted panels bring in colour and texture to the sparse interior of the space.

The low-sheen reflection of the floor combined with the white walls and ceiling helps amplify light levels within the space.

The exposed/ unclad structure alludes to the industrial history of the site but also adds to the robust structural and material presence of the small urban gallery.

Limitations

- the small floor plate complicates the curation of a large body of work.
- for works (architectural and design) that have the combined presentation material of drawings and models, the configuration of the gallery dictates that they are presented separately in space.
- the mobile display units, though small, leave little room for circulation for large groups of people.
- For artist talks and other performance events the floor space has to be cleared and the display units have to be stored off-site.

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“The front by Steven Holl with artist Vito Acconci is noticeably different from the traditional shop fronts and art galleries in nearby Soho: its experimental design forges a powerful link between public space, the sidewalk and street, and the private space represented by the narrow inner triangle of the art gallery. Conceived in this way, the facade is both an element of urban cohesion, an extension of the road into the interior, and an expansion of the interior into the street.”

“STOREFRONT FOR ART AND ARCHITECTURE,” Steven Holl Architects, accessed June 22, 2017, <http://www.steven-holl.com/projects/storefront-for-art-and-architecture>.

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Exhibition space

The images presented here demonstrate the environment of the exhibition space and the presentation of content through a series of mobile units on wheels

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Gallery for contemporary & historical content

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// Kolumba Museum, Cologne
// Louvre Lens, Lens

The art galleries featured in this section represent a new model in art gallery and museum typology from both curatorial and functional point of view. In both galleries discussed here, historical content was presented in the same space as the contemporary works creating an interesting demand on the architecture to cater for conditions required for two different types of content.

In Kolumba, the curatorial premise dictates the presentation of historical content next to contemporary content from the gallery's collection in the same space. As such the architecture of the museum needs to provide an environment that is conducive to historical items as well as contemporary works of art. Louvre Lens, though predominantly historical, has temporary galleries for the exhibition of travelling contemporary exhibitions. As such, the exhibition spaces adapt to the changing content on exhibition.

// Kolumba Museum

Synopsis

This museum provides a vertical set of galleries that extend up from the ruins of a Romanesque church destroyed during the WWII bombing of Cologne. Externally, it provides a closed and formal front to the city and internally the gallery spaces provide moments of quiet encounter with the art. Unique to the experience of this art space is the curatorial premise informed by the Archdiocese's collection of historical and contemporary art and also Peter Zumthor's carefully considered spaces, use of materials, careful detailing and modulation of daylight that frames the works in subtle ways.

Architect: Peter Zumthor

Year Opened: 2008

Location: Kolumbastraße 4, 50667 Köln, Germany

Total Floor Area: 5,880 sqm (approx)

Exhibition Area: 1,750 sqm

Description

A new building emerges seamlessly from the old remains and ruins of the Gothic Church of St. Columba that had been built during medieval times and destroyed during the bombing of Cologne in 1943. The museum also shares the site with a small 1950s chapel by Gottfried Böhm. On the street level it has a subtle presence, sympathetic with the materiality and volume of buildings nearby.

Kolumba Museum provides a meditative art space within the bustling city of Cologne. Belonging to the archdiocese of Cologne, the collection boasts of two millennia of western culture. A careful exercise in material exploration and spatial organisation, the museum is an insular space, closed off from its urban context. Within the museum, the visitor moves vertically through the gallery spaces starting with the basement where the ruins are located.

Within the 16 exhibition spaces, devoid of any graphics, didactic text or even wall labels, the visitor encounters art within a contemplative site of art, architecture and remembrance.

Collection / Art / Content

The museum houses Cologne's Roman Catholic Archdiocese's collection of art spanning over a thousand years. In 1997, along with the commissioning of the new building the museum started collecting contemporary works of art from world renowned contemporary artists such as Jannis Kounellis, Rebecca Horn, Bethan Huws, Joseph Beuys and many more.

Curatorial premise

Kolumba largely displays its own collection of historic and contemporary work side by side in a series in an architectural environment with the sanctified aura of a temple. Each exhibition is curated annually with the shows opening on September 15. For contemporary and modern art in the collection the focus has been centred on artistic discourses, that pursue questions of human existence that are especially relevant to the Church.

Civic presence

The architecture combines the ruins of the late Gothic church St. Kolumba, the chapel "Madonna in the Ruins" and rises as a monolith of warm grey bricks fronting the two adjoining streets. Weaving into the urban texture through its materiality and form, the museum is a respectful tribute to its unique urban context. The building is also an exercise in urban planning restoring, through careful reconstruction, the lost core Cologne's city centre and the church that once occupied the site. The exterior doesn't allude to the function of the building and as such is quite an insular building. Accessible through a small glass door the visitor is greeted by a reception/ shop / cloakroom area adjoining a courtyard. A peaceful outdoor area and partially visible from the street, the courtyard takes the place of a lost medieval cemetery.

Architecture

The largest space within the building contains and frames the two thousand year structure of the city as a site of remembrance. A double height volume, daylight

// Kolumba Museum

(continued)

enters through the perforated brick facade flickering over the interior surfaces. Located above this space and carried by slim columns, which gently sit atop the archaeological excavation, is an exhibition floor. The spatial structure of the exhibition spaces is derived from the idiosyncratic ground plan that connects seamlessly to the new northern building. The northern wing houses the entrance, the foyer, exhibition spaces, the treasury and the underground storage areas.

Exhibition spaces

The sixteen exhibition spaces move the visitor from a series of darkened spaces, suitable for light sensitive content to the upper level galleries awash with daylight. This building is a careful exercise in light modulation to suit the nature of works on display. This strategy combined with the reduced materiality of the brick, mortar, plaster and terrazzo add to the subdued atmospheres within which appear, in high relief, both historic and contemporary works of art. As an interior space, the materiality and lighting frame the works rather than overpowering it and the ambiance within each space shifts in the course of the day and the seasons.

Showcases

A consistent suite of freestanding showcases with glass tops predominantly house the historic collection. Made from black steel frames and glass, they provide a consistent look and feel throughout the space. Lit from above the showcases further compliment the subdued materiality of the museum.

Floating floor

The materiality of the floor is one of the key features of the museum. Made from Jura limestone and terrazzo, the flooring adds to the lighting condition of the spaces to make it appear lightweight whilst the reflection creates the illusion of a bigger volume. Floating from the walls with a 50mm gap all around, the illusion of a floating floor is further emphasised. The floors between various galleries are defined through a height variation of another 50mm to mark a different zone and space and create a threshold into a different gallery space.

Concrete walls

Contrary to the flat white walls of other galleries, the uneven in the concrete with a plaster render surface adds a subtle texture to the space. The render allows for the patching of walls after shows to conceal marks and holes from drilling.

Big Windows

The wall-sized windows of upper level galleries allow daylight to enter whilst also framing key moments within the city. As such the experience of the art is both a solitary exercise but also one backgrounded by greater Cologne. Hand stitched grey silk curtains are utilised to control daylight. On the outside the steel framed windows help segment the monolithic facade.

Lighting

A custom suite of lighting fixtures populate the concrete ceiling. Rather than a lighting track, the fixtures plug into a pre-existing holes that form an evenly spaced grid. When not in use the holes are closed with a

// Kolumba Museum

(continued)

stainless steel caps.

Volumes

The volumes of the exhibition spaces increases and fills with more light as the visitor ascends higher into the gallery spaces. On the topmost floor, two large towers with high windows of frosted glass provide an appropriate space for the siting of large scale artworks in the collection.

Materiality

The warm grey brick, basalt and bricks of the ruins combine to bring warmth and light to an otherwise dark space. Natural light enters the building through the perforations in the brick, flickering on all interior surfaces. The thin light grey bricks were designed especially for Kolumba by Danish brick manufacturer Petersen Tegl.

The reduced materiality of the interior spaces allow the artefacts and artworks to stand in high relief whilst adding to the ambiance of a space designed for a meditative and solitary experience.

Landscape

An open light filled and gravelled courtyard on the ground floor is planted with tall lithe trees and surrounded on two sides by the partially restored walls of the old church. At the centre of the courtyard, some functional seating and sculptor Hans Josephsohn's 'Reclining Figure', Richard Serra's 'The Drowned and the Saved' and Josef Wolf's 'Untitled 2007' provide a

quiet contemplative space within the busy centre of Cologne.

Limitations

- Though designed for a solitary and meditative experience, there aren't many breakout spaces (apart from courtyard and library) for the visitor if they seek rest in between exhibits. Seating areas are scarce and far in between.
- The changing flooring height creates a trip hazard for the visitor especially in scenarios where the spaces are darkened.
- The curators have to work with a fixed and pre-determined spatial layout with no built in provision for temporary walls.
- The infrastructure (lighting and power) is built into the architecture and might provide a challenge for future upgrade.

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“As an art museum, Kolumba does not intend to be representative or didactic. Nor does it want to compete with other institutions in the city. A place for the eyes, for all the senses, this is what it strives to be.”

- Friedhelm Mennekes,
theologian and curator, Kolumba Museum

*“In another View: Art in Cologne’s Kolumba Collection,”
Salve Review for Theology,
Spiritual Life, and Culture No.2 Year 21 (2011): 53.*

.....







Facade detail

The images here demonstrate the careful attachment of the new facade to the existing ruins on site as well as the surrounding material palette. The top left image shows the quiet garden with the long sandstone bench and the 'Large Reclining Figure' by Hans Josephson, one of the 3 artworks in the external areas.



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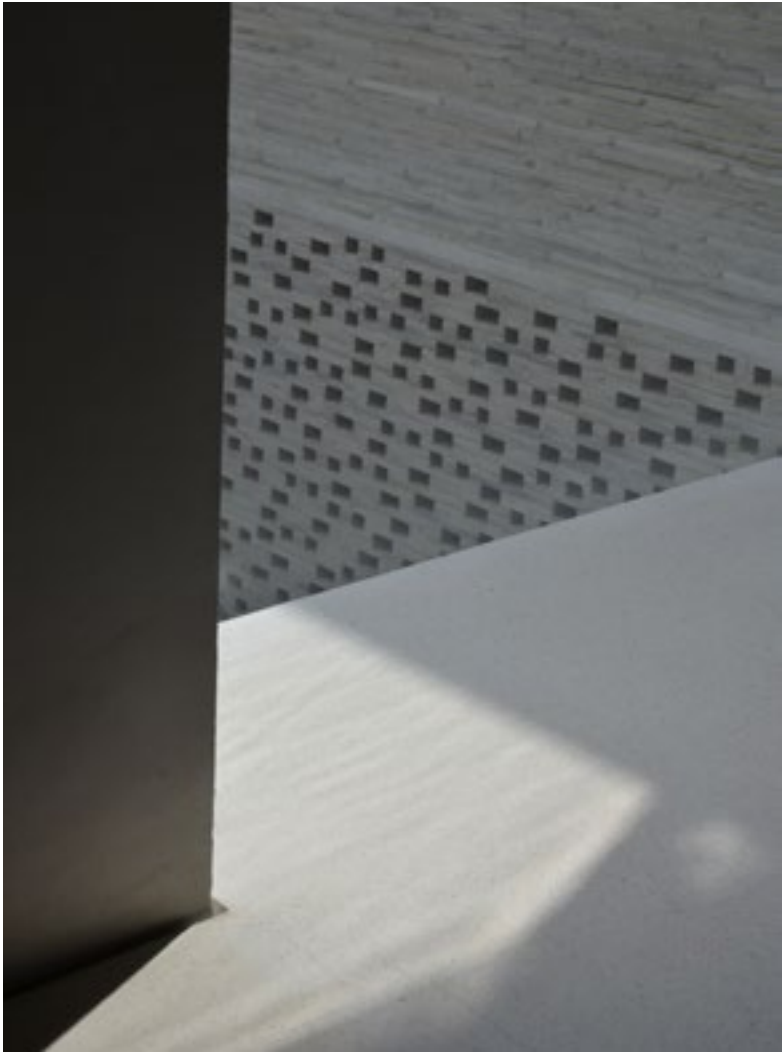
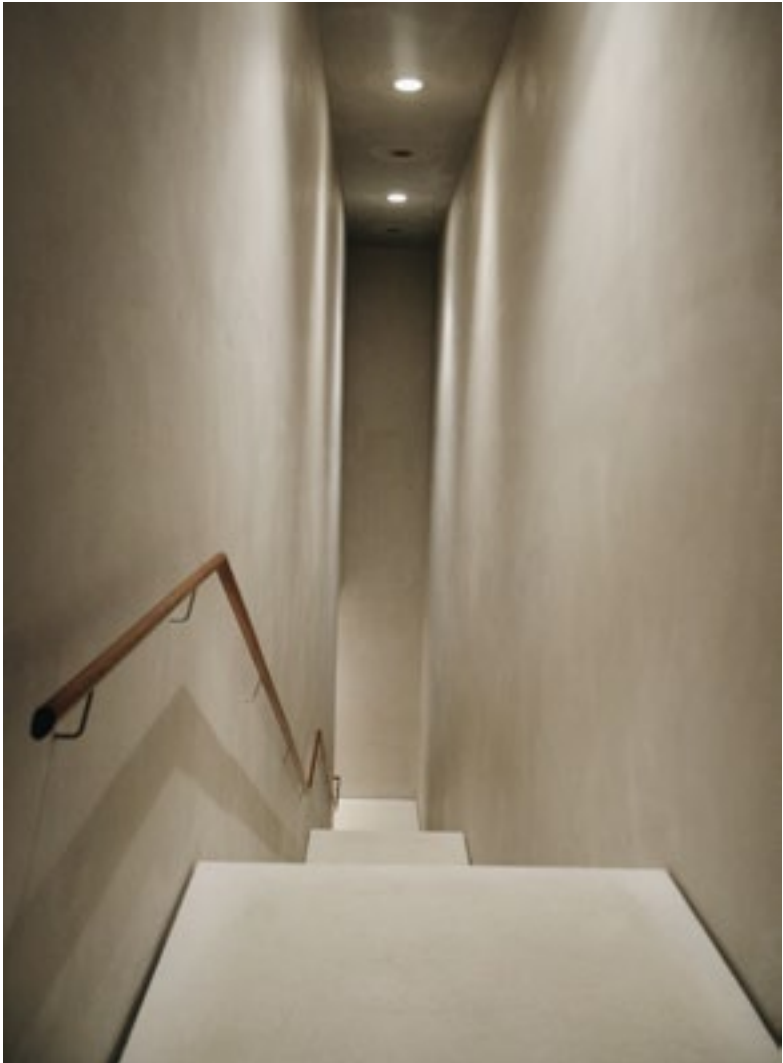
"A museum of immediate experience and full of surprises, of discovery - and of extended contemplation. Founded on April 2nd, 1853, it stands out as being particularly dynamic within the immensely rich art landscape of the Rhineland as well as among its comparable sister institutions elsewhere. It's essential features are: openness, interconnectedness, and a growing interest in the respective contemporary art."

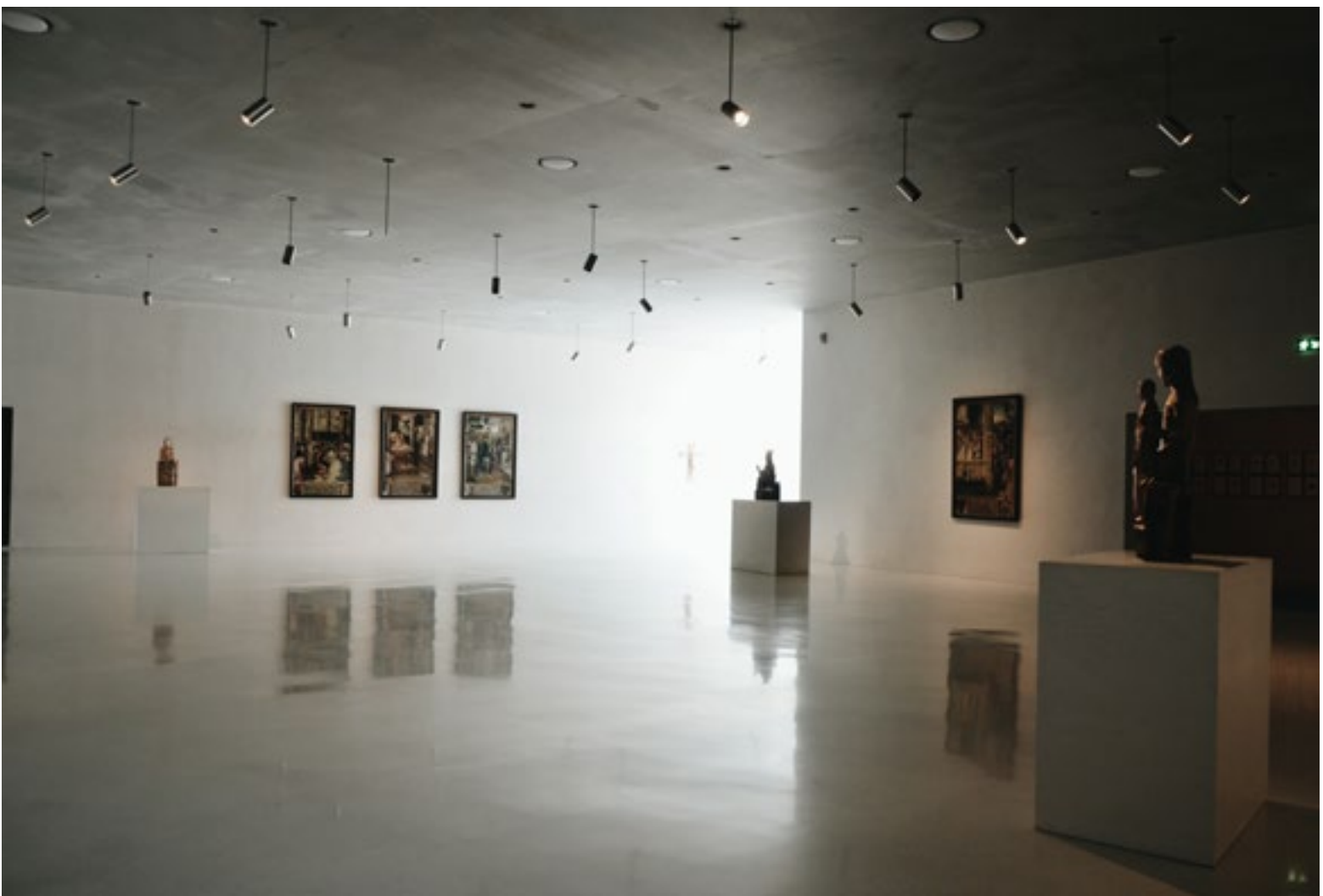
- Friedhelm Mennekes,
theologian and curator, Kolumba Museum

*"In another View: Art in Cologne's Kolumba Collection,"
Salve Review for Theology,
Spiritual Life, and Culture No.2 Year 21 (2011): 53.*

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Library & label booklet

The images to the left are of the interior of a small timber lined library adjoining the exhibition spaces.

Above is a small A5 booklet provided to the visitor at ticketing desk and contains information in lieu of wall labels and didactics.



// LOUVRE LENS

Synopsis

This gallery presents cultural and economic model where the art collection from more established institutions is de-centralised to regional areas to boost cultural tourism. Additionally, the architecture reconsiders display conditions for historical works of art by providing a set of pristine exhibition spaces that utilise a contemporary material palette and natural daylight in very strategic ways.

Architect: SANAA (Kazuyo Sejima & Ryue Nishizawa) with Imrey Culbert.

Year Opened: 2012

Location: 99 Rue Paul Bert, 62300 Lens, France

Total Floor Area: 28,000 sqm

Exhibition Area: 6,120 sqm (approx)

Description

Louvre Lens is located in the remote town of Lens, 200 kilometres north of Paris. The museum is initiative by the French government, to culturally and economically rehabilitate the coal mining town that ceased operation in the 1960s.

In this ex-mining town and surrounded by a pyramids of slag heap, the pristine glass and aluminium pavilions of Louvre Lens float above a man-made plateau that covers an old coal mine.

At its periphery the museum complex is surrounded by the sleepy suburban town and a very popular sports stadium. The commissioning of Louvre Lens is an exercise in economic sustenance and rejuvenation achieved through cultural tourism. In this instance, it also sees the decentralisation of art and culture from Paris to more regional areas. In its curatorial premise, the new museum is expected to house a selection of historical works from Louvre in Paris but also provide a venue for the display of temporary exhibitions for both historical and contemporary content. To compensate for the remoteness additional spaces such as conference rooms, a café, a picnic area, a library/ resource centre, a bookshop and a viewable conversation area provides the visitors with ample spatial options for activities, rest and engagement with the space and content.

Architecturally, the Louvre Lens museum provides a greater programme of spaces that caters for activities extending outside the exhibition spaces. Two exhibition pavilions adjoin a central area housing ticketing, a shop, a cafe, a library / resource centre, a meeting area, a

picnic pavilion with the conservation areas and back of house facilities located in the basement.

Collection / Art / Content

Louvre Lens maintains close links with Musée du Louvre in Paris and displays objects from the collections of the Musée du Louvre on medium to long-term loan. As such, Louvre Lens also reflects a cultural initiative to decentralise of French institutions from cities such as Paris to regional centres. Additional to historical artefacts, Louvre Lens, also hosts regional shows on all manner of contemporary issues.

Curatorial premise

Louvre Lens presents a cross section through the Louvre's collection of approx 205 works representing six millenia of art, from the prehistoric to the 19th century, shown in chronological sequence. Works include artefacts from Persia to Rome, from Islamic cultures to Renaissance shown side by side.

Civic presence

The five low-lying silvery pavilions of aluminium and glass float above a reconstituted landscape that covers a disused mine .

The site is approached through meandering pathways leading the visitor from the train station to the site. The alternative approach is via a special shuttle bus that delivers visitors from Lens station to the concrete plaza to the front of the museum. The volume and scale of the pavilions are low and the materiality of glass and semi-

// LOUVRE LENS

(continued)

reflective aluminium echoes the atmosphere, light and colours of the surrounding landscape. The combination of both materiality and scale allow the building, despite its large footprint, to read as being quite small in scale. The concrete plaza and low landscaping features around the building allow for clear sight-lines to the building and some of the interior spaces and also makes for an open and inviting entry/ civic space.

The pavilions as a massing exercise are conceived as part of the greater plateau on which they sit and this becomes obvious as the visitor ascends the sloped road leading to the museum complex. Integral to this approach is the landscape strategy by the project's landscape architect Catherine Mosbach. The landscaping creates a sense of entry and includes a flat terrain of concrete that follows the contours of the plateau. Meandering paths and pebble-shaped cuts in the concrete creates a playful graphic patterning that house a variety of local wildflowers and tufts of grass. These shapes in the concrete are emulated within the building as a series of floating glass pods that occupy the entrance lobby.

Architecture

The museum begins as a landscape.

Externally the site's formal landscaped garden in front of the museum and a concrete plaza lead to the five rectangular volumes. Arranged in linear sequence and connected by a central entrance, the architects compare the five volumes to "boats moored in a river". Anchoring the pavilions is the a glassy entrance pavilion, a variation on the glass pyramid at the Louvre, within which are

more glass-enclosed pods . The concrete of the plaza seamlessly becomes part of the internal floor plate. Once inside, the visitor is greeted by a series of the lobbies with their slender white columns and curved glass pods containing a cafe, a bookshop, a resource centre, a conference room and an informal eating area for groups.

Diagonally across the entrance floor plan are two exhibition pavilions. Whilst one is a permanent fit-out with the prolific collection on display, the other caters for temporary exhibitions that are on display for a few months only. A glass-walled pavilion is at the end of the permanent gallery whilst a public theatre (with the entry from outside) adjoins the temporary exhibition space.

A glass lift and a stair take visitors to the underground facilities that include amenities (toilets and lockers) but also a key feature of the Louvre Lens experience: a view into the conservation labs. Here the visitors on a weekday can see the in-house conservators at work restoring and attending to some prolific items from the collection. A series of touch-tables and projections on curved glass adjacent to the viewing area provide access to interviews and other digital content pertaining to the collection and the museum.

Transparency, openness and accessibility are key conceptual terms guiding both the museum and it's architectural strategy.

Exhibition spaces

Gallery du Temps/ Gallery of Time

A 125 metre-long hangar-like space titled 'Galerie du

// LOUVRE LENS

(continued)

Temps' or the Gallery of Time is the main exhibition space. Here art comprising historical works from six millenia of art, from the prehistoric to the 19th century, are shown in chronological sequence. As the visitor traverses the length of the this exhibition hall comparisons can be made across cultures, from Persian to Roman, or Islamic to Renaissance. A permanent time-line etched on the internal wall guides the visitor through the chronology that guides the placement of the artefacts within space. The exhibits, a combination of sculpture, painting, drawing, architectural elements (screens, parts of columns) and drawings are flanked by aluminium-finished walls with a soft reflective surface. The floor is pale and polished concrete, and the ceiling, a series of louvered aluminium blades allowing diffused natural light to pour in through the gaps. The combination of natural and artificial light reflecting off the internal surfaces creates a sense of lightness in both structure and space.

This design approach is a clear and deliberate diversion from traditional modes of space-making and lighting for historical works of art. In more established institutions such as the Louvre, such works are often displayed in more subdued, darkened environments against a backdrop of stone, plaster or fabric. Here, however, the interior architecture, exhibition design and lighting allow for the objects/ artefacts to read in high relief against the subdued material palette of the space and furniture. As the visitor traverse the length of 'Gallery of Time', the artefacts appear as subtle reflections on the aluminium walls, as ghostly imitations of themselves.

Further adding to this experience is the exhibition furniture. In this space, the showcases and other exhibition furniture works sympathetically with the

materiality and intent of the architecture. Exhibition designer, Adrien Gardère, has created a series of micro-architectures (low plinths, thin walls, glass covered showcases) that float in the centre of the space, and are made from a combination of materials: white painted plaster walls, two-pack paint finish to MDF (or a similar material,) frame-less low-iron toughened glass showcases and powdercoated steel elements (both for structure and infrastructure)

Art is transported into this space through a goods lift that is the only enclosed element interrupting an otherwise open plan. The loading dock as well as the conservation facilities are located underground and the location of the goods lift ensures the quickest and most controlled (environmental) path from conservation labs to the exhibition space.

At the end of the space is a glass-walled pavilion that hosts local exhibitions and contemporary works. To deal with the daylight issues, temporary wall enclosures are built to suit the scale of the works on exhibition.

Galerie D'Exposition Temporaire/ Gallery for temporary exhibitions

Slightly smaller in length but with similar proportions to 'Gallery of Time', this pavilion is reserved for temporary exhibitions. Here whilst the materiality and structure of the louvered ceiling is identical to 'Gallery of Time', the internal wall constriction is white plasterboard that is painted to suit the paint treatment required for the temporary exhibitions. Temporary exhibitions, of both historical and contemporary works) are displayed in this hall via a series of temporary stud walls with

// LOUVRE LENS

(continued)

plasterboard finish and paint. Further light control is achieved by building either a ceiling into this structures or added a layer of dark fabric above the louvered panels.

The flooring here too is concrete and combined with the aluminium louvers overhead provide a subtle colour palette that works with the materiality of the temporary walls.

A goods lift transports art into this space from underground conservation labs. Located within the enclosure for the goods lift is also an amenities block.

Landscape

The public route towards the glazed entrance is signaled by the pebble-shaped pattern of pathways. Growing within these 'cuts' are a range of local flora including local wild flowers. The concrete floor introduced as a public plaza continues into the interior as a smooth floor. The landscape architect, Catherine Mosbach, has worked closely with SANAA to achieve a seamless synthesis between the interior and exterior condition of the building. Small pathways through and round the edge of the museum complex provide connection to the surrounding landscape, natural forest groves in the western part and small gardens.

Materiality

The two main exhibition pavilions are clad externally in semi-reflective aluminium. Internally the same cladding allows the light from the northern sky into the spaces, diffusing it into a softer illumination. Both the internal

and external materiality are key architectural strategies derived from the greater urban strategy and a curatorial premise to show the historic collection within a contemporary spatial context. Glass, concrete and white painted and powdercoated surface (for both structure and infrastructure) add to the architectural language of the museum

Limitations

- from the entrance space, the entry into either of the exhibition/ gallery spaces is not immediately clear because they are located at the corners of the cube. The glass pods in the entrance space further interrupt clear sight-lines into key spaces.
- the experience of the 'Gallery of Time' is a single path journey where the visitors enter the space, and walk the length of the gallery to be expelled into the end glass pavilion and turn back around and walk the length of the gallery again. It takes away from the experience of the collection because in your journey out of the gallery, you experience the back of most of the key works.
- the light condition in the 'Gallery of Time' is more suitable for less sensitive artefacts as the space doesn't provide the possibility of a total black box. This leads to certain curatorial restriction in terms of what can and can't be displayed.
- the viewing of the conservation labs are a key feature of the museum but during this particular visit, only a portion of the lab was visible.
- the underground 'interpretation' area where a series of projections and tablets have been placed to reveal to the visitor the 'behind-the-scenes' workings of the museum is a low-ceilinged space with artificial illumination. It is a space reserved for prolonged engagement but the spatial conditions are not conducive to prolonged activities.

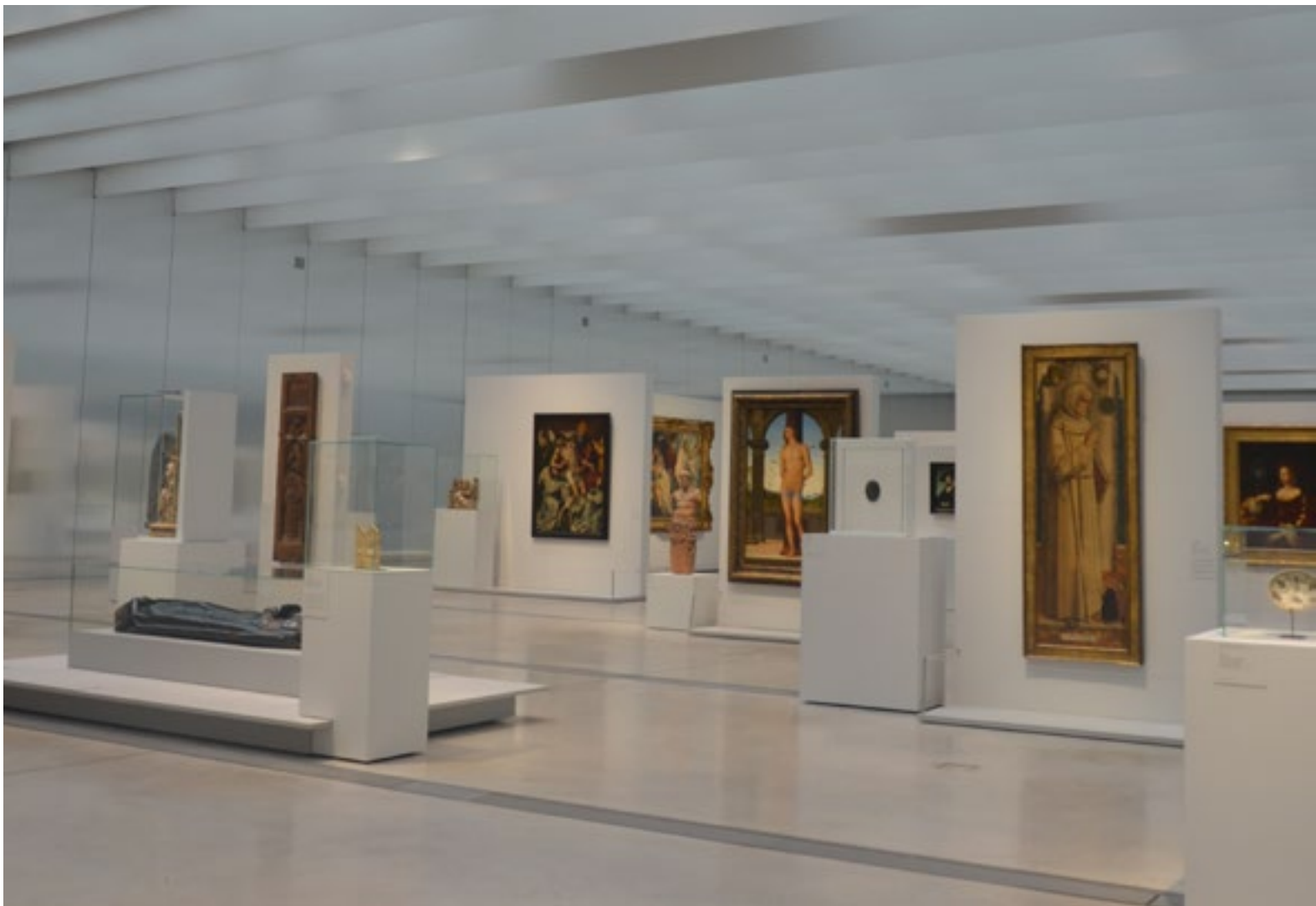
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"We thought that instead of dividing the content (of the Gallery of Time) across two galleries its best if 6000 years of art is shown in one big gallery. There is something in the lining up of objects in one space that makes the visitor conscious of the flow of time. So this permanent space becomes a time tunnel, you travel through this to arrive at the glass pavilion that connects back to landscape."

-Kazuyo Sejima, SANAA,
architect, Louvre Lens

Interviewed by Belqis Youssofzay.
SANAA Offices, Tokyo Japan, July 6, 2016.

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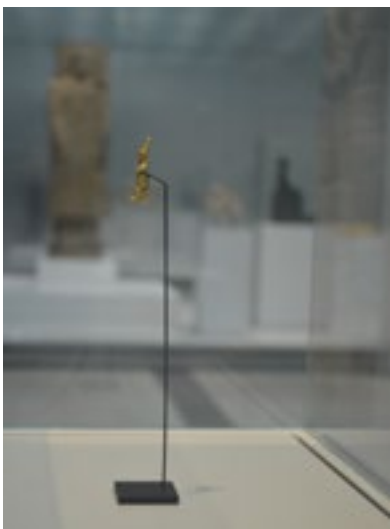
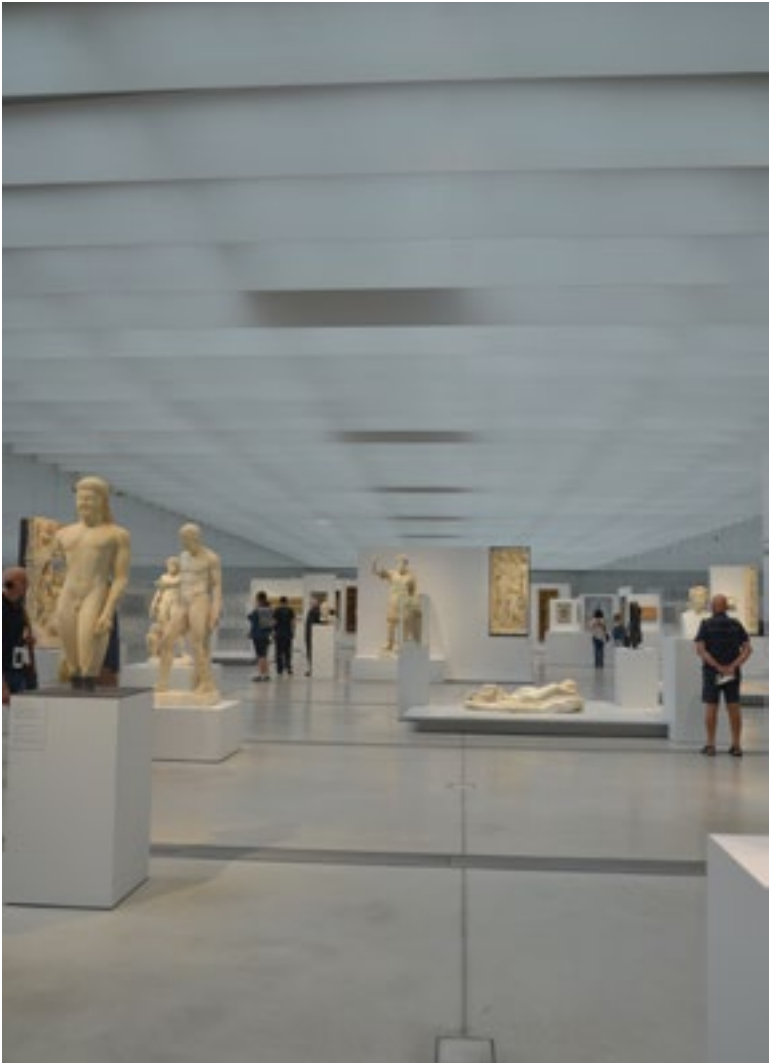


Entrance space & glass pods

The images presented here demonstrate the environment of the entrance space and its materiality. The image on the left illustrates the condition of the conference room pods where an additional two opaque circular pods provide private environments for meetings.







Gallery of Time

The images presented on this page and preceding pages demonstrate the environment of the main exhibition hall and its distinct material strategy of semi-reflective aluminium, pale concrete and diffused daylight & LED spotlights.



Glass Gallery/
Glass Pavilion

This gallery is an glass enclosed pavilion accessed at the end of 'Gallery of Time'. This space is reserved for the exhibition of local contemporary content. Enclosed structures are required to be built to help with acoustic issues and daylight issues that affect multimedia content such as projections and monitors.



Temporary Gallery

The images here show an example of a temporary exhibition on display. Here, new stud walls with plasterboard finish have been built to cater for different thematic zones and enclosures required for this particular exhibition.



Conservation area

The images presented on this page show the underground area that provides a window to the conservation labs. Here the works being conserved and maintained are on public display. The conservators can be seen at work sometimes too.



Conservation / interpretation zone

Here the visitors are given digital access to some behind-the-scenes workings of the museum including interviews with curators, conservators, object history etc. The image on the right is the interpretive digital content made available to visitors to aid curatorial navigation through galleries



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Gallery for historical content

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- // Neues Museum, Berlin
- // Horyuji Treasures Museum, Tokyo
- // Rijksmuseum, Amsterdam

The art galleries featured in this section functionally operate the same as an art gallery for contemporary and modern art, however, due to the nature of the content, the exhibition spaces are expected to function under strict environmental conditions to adhere to conservation standards applicable to historical artefacts and works on paper. Colour pigments in most museological artefacts are sensitive to natural light and a specific Lux levels (25-50 Lux or less) is required within the exhibition spaces. The implication is that the exhibition spaces are required to have built in adaptability and allowance for both daylight and general light control. As such through architecture, the light and environment conditions are maintained to required standards.

These galleries also provide best-practice design (architecture and display) and planning examples for the display of historical artefacts.

// Neues Museum

Synopsis

Central to the design of the Neues Museum is a compelling case for reconstruction of iconic museums after severe destruction to building fabric and interior spaces. Structure, material and planning considerations provide a set of materially consistent and structurally robust volumes. Additional to this, a customised set of exhibition furniture provides a coherent narrative through the museum's vast collection of historic artefacts.

Architect: David Chipperfield Architects (restoration)
on a Friedrich August Stüler (original building)

Year Opened: 2009

Location: Bodestraße 1-3, 10178 Berlin, Germany

Total Floor Area: 20,500 sqm,

Exhibition Area: 15,100 sqm (approx)

Description

Originally designed by Friedrich August Stüler and built between 1841 and 1859, the building was severely damaged during the WWII bombing of Berlin and for almost 60 years remained a ruin. David Chipperfield Architects (in collaboration with Julian Harrap) won an international competition to restore the museum and within it create a series of exhibition spaces for the museum's collection of mostly archaeological artefacts.

The museum traditionally built in a neoclassical style has been carefully and elegantly restored without erasing the traces of the damage on the built fabric. Part of the restoration has involved introducing new infrastructure (artificial lighting, mechanical ventilation and structural beams) and architectural elements (floors, compliant entries and exits) to convert the previous rooms into fully functioning gallery spaces that house a variety of exhibits within independent display systems.

The museum through spatially sequencing of the exhibits and creating a prescriptive circulation path thematically links exhibits from three separate collections.

The existing patterns have been left in the space, incomplete and faded. This adds a patina to the spaces and allow for the reading of the historical and the contemporary elements of the architecture in the space. According to Chipperfield it the "very incompleteness of its decorative pattern helps to create a holistic understanding of the historic and contemporary structure and its original and current purpose."

Collection / Art / Content

The museums houses permanent collections of archaeological artefacts that occupy the four floors of the building: the Ägyptisches Museum und Papyrussammlung (Egyptian Museum and Papyrus Collection) and the Museum für Vor- und Frühgeschichte (Museum of Prehistory and Early History), with some of the objects on loan from the Antikensammlung (Collection of Classical Antiquities). The basement through to level predominantly displays Egyptian artefacts with a few exhibition spaces dedicated to Roman artefacts. Level 3 is dedicated to non - Egyptian artefacts with a collection of Stone age, Bronze Age and Iron Age artefacts from Museum of Prehistory and Early History on display.

Curatorial premise

Through the spatial and thematic sequencing of the displays the collection provides an insight into the evolution of ancient cultures that extends from Middle East to the Atlantic and from North Africa to Scandinavia. On the last floor of the gallery, artefacts from the Museum of Prehistory and Early History reflects on the cultural history of Europe and parts of Asia from Stone Age to the Middle Ages.

Architecture

Overall spatial strategy:

A continuous architectural approach and structure incorporates and restores nearly all of the damaged fabric with the insertion of a series of contemporary built elements. The process has been described by

// Neues Museum

(continued)

it's architect David Chipperfield "as a multidisciplinary interaction between repairing, conserving, restoring and recreating all of its components".

The building is quite insular as the spaces are contained within the parameters of the original Stüler building with no connection points to the outside. However incorporated within the greater sequencing of spaces are breakout areas, incorporated as breakout zones with natural daylighting for the visitor to rest between exhibition spaces.

Exhibition spaces:

Inserted within the existing envelope of the Stüler building are a series of exhibition spaces built from large format pre-fabricated concrete elements consisting of white cement mixed with Saxonian marble chips. The gaps in the existing structure were filled in without competing with its surface. The introduction of new flooring and ceiling structure allows for the integration of lighting tracks, power supply available in floor and environmental control. The existing walls that had original painted elements have been left untouched.

Stairway Hall:

The grand central staircase that acts as the connection point between the floors and brings ample daylighting into the central core of the building has been formed from the same concrete elements. This staircase is a homage to the existing one, it re-imagines the original without replicating it. It occupies the centre of the majestic hall that is preserved only as a brick volume, without it's original ornamentation.

New volumes:

Built from recycled handmade bricks to compliment the

restored sections, new exhibition volumes have been built in the Northwest wing that houses the Egyptian court and the Apollo risalit, the apse in the Greek courtyard, and the South Dome. Sitting underneath the domed structures are a series of sculptural displays on plinths and within glass showcase with indirect daylight and some track lighting highlighting them.

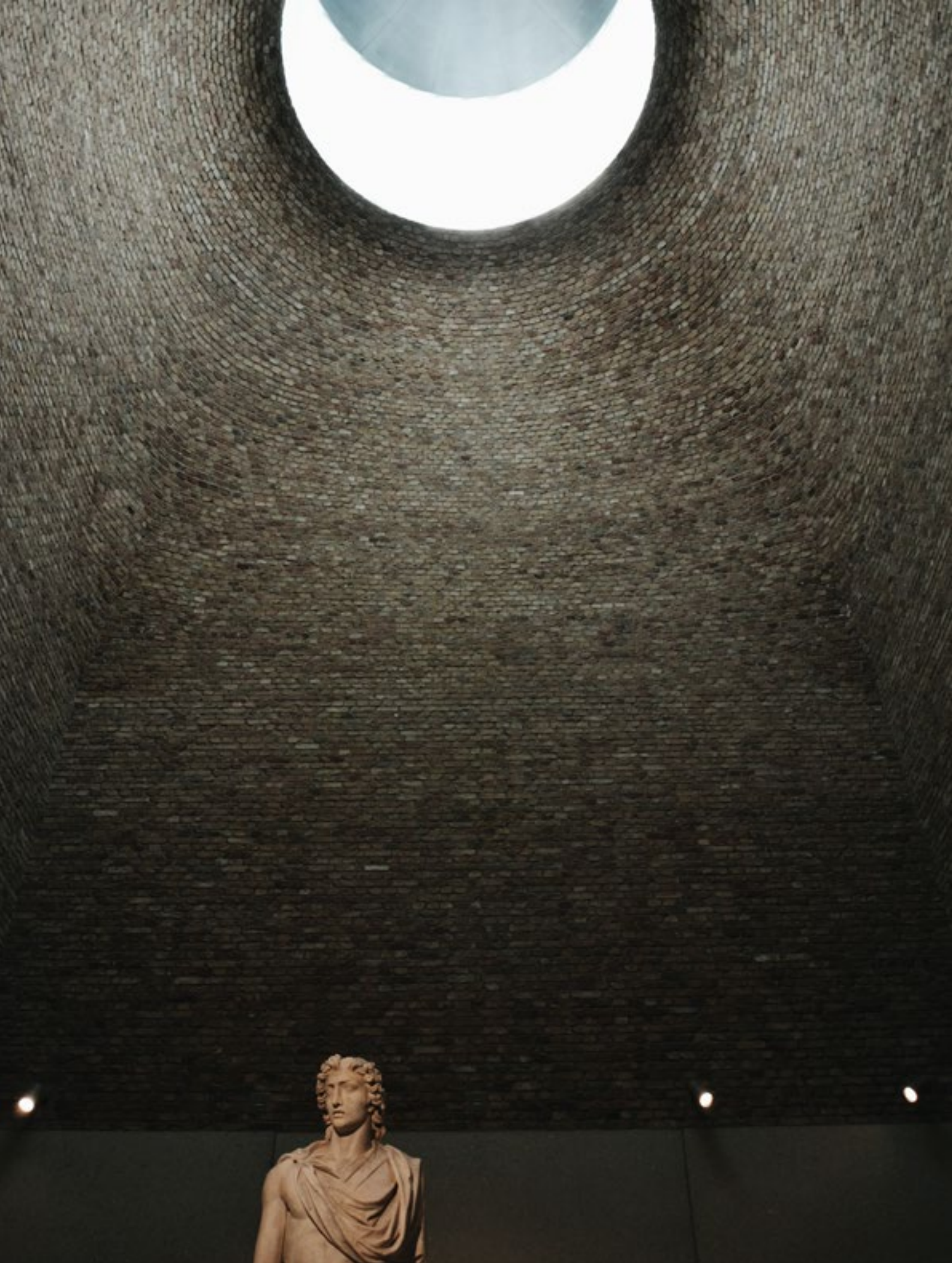
Exhibition spaces

Designed by Michele de Lucchi, a series of independent display systems, that consist of elegant steel-framed lockable showcases with clear glass on all five sides, house the artefacts. The showcases float independent of the architecture and occupy the centre of the exhibition space. The layout of the cases create a path for the visitors and communicate the broad curatorial narrative. The showcases are in different sizes and proportions to house different artefacts and are often spot-lit from track lights above. The showcases housed within the glass-roofed courtyards are lit by ambient daylight within the space.

The raisers/ support structures within the cases are made of the same terrazzo as the flooring adding an element of material consistency throughout the space.

Materiality and light

Both materiality and lighting play a role in the viewing of the artefacts, the contemporary in its lightness of colour and materiality recedes to allow for the artefacts to be the most pronounced presence in the spaces. Lighting, both natural and artificial, further enhances the presence of the artefacts in each room.



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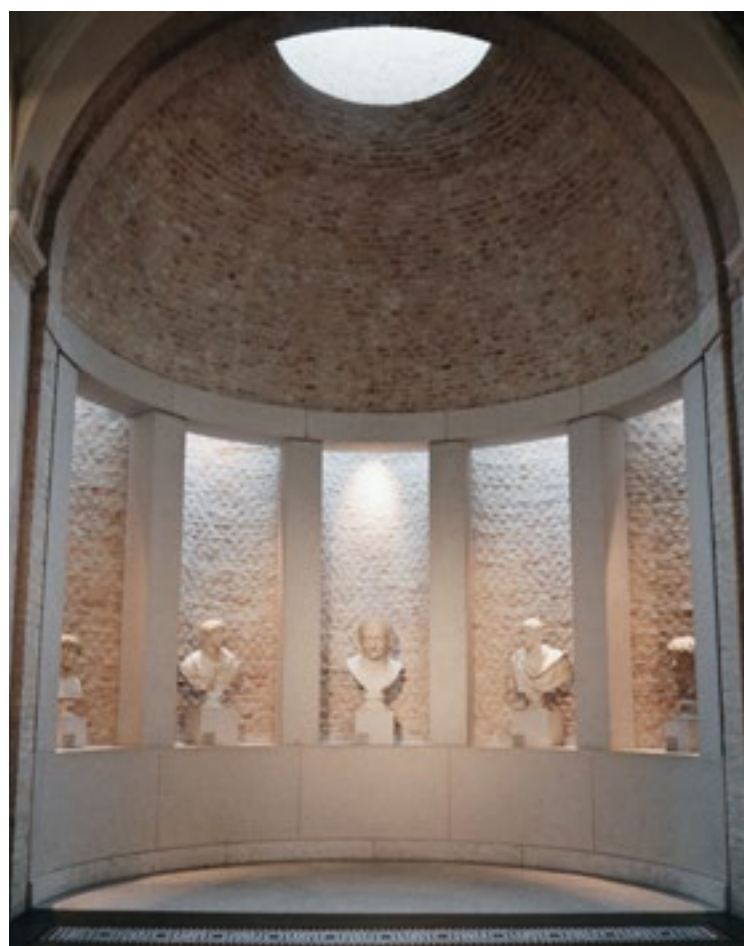
“Our vision was not to make a memorial to destruction, nor to create a historical reproduction, but to protect and make sense of the extraordinary ruin and remains that survived not only the destruction of the war but also the physical erosion of the last 60 years”

- David Chipperfield,
architect, Neues Museum

*Neues Museum, Berlin:
David Chipperfield Architects in Collaboration with
Julian Harrap (Cologne: Verlag der Buchhandlung
Walther Koenig, 2009), 11.*

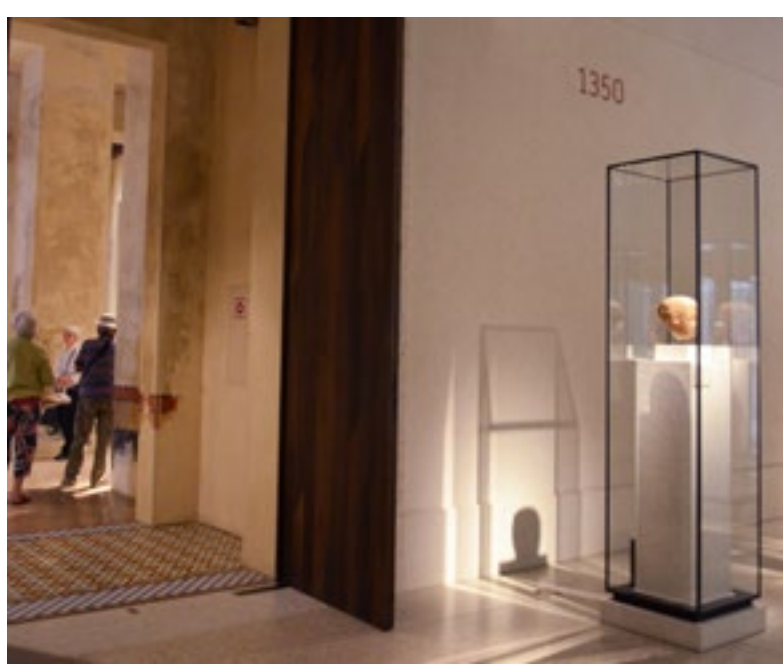
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Building patina

All the images included in this spread show details of the restoration to the building fabric. The glimpses of patterns and painted scenes on the original architecture becomes part of the art and ambiance of the gallery.



Exhibition spaces

The following two pages show images of exhibition conditions for both internal galleries and external galleries including services infrastructure (lighting, electrical) , showcases, exhibition furniture





Front of house

These images are from the front of house areas: the reception/cloaking and the shop.

Consistency of materiality and joinery as well as good storage makes for well presented front of house areas.





// Gallery of Horyuji Treasures

Synopsis

A gallery commissioned specifically to house a historic collection consisting of 300 artefacts, the exhibition spaces have been deliberately planned and detailed to house the collection and adhere to the conservation demands placed on these artefacts. It essentially functions as conservation space where the objects are on public display. The exhibition spaces respond to sensitive works in the collection by providing a set of environmentally controlled galleries and permanent exhibition showcases.

Architect: Yoshio Taniguchi & Associates

Year Opened: 2003

Location: Tokyo National Museum, 13-9 Ueno Park
Taito-ku, Tokyo

Total Floor Area: 8,910 sqm (approx)

Exhibition Area: 4,030 sqm

Description

Situated within the greater complex of Tokyo National Museum, the Gallery of Horyuji Treasures occupies a quiet corner within the complex, surrounded by lush gardens.

A modernist work of architecture, the building is quite formal in its organisation, planning and materiality. Visitors traverse a pathway surrounded by a shallow pool to enter the double height atrium of the building. The austere entry space and procession through an equally formal corridor and stairs lead visitors to the inner core of the building where the artefacts are housed and on display.

Additional to the exhibition spaces there is a resource centre (which at the time of the scholarship visit was empty of books but occupied by some elderly gentlemen for a social meeting), a restaurant, a reference room with digitised archives and back of house areas.

Collection / Art / Content

The Gallery of Horyuji Treasures is built around 300 valuable objects, mainly from the 7th - 8th century, which were donated to the Imperial Household by Horyuji Temple in 1878.

Curatorial premise

Each collection of artefacts is presented in a single room grouped together as types and presented as a collection.

Architecture

The brief required the building to be site for the permanent storage of the artefacts whilst still keeping them on display which has led to the building having two very contrasting environments. The outer layer of the building where the entry, restaurant and other functions are located is light-filled and bright enclosed by glass and louvered ceiling.

The spaces where the exhibits are housed is protected from any daylight entering the space, making it quite dark. The material palette of dark stone floors and dark walls add to the darkened spaces. The exhibition spaces, which make up most of the building are spread across two levels and as a series of different sized rooms with very strict environmental and light control strategies in place.

There are other breakout and corridor spaces that create an additional buffer layer between the exhibition spaces and the greater gallery.

Exhibition spaces

The exhibition spaces are tightly controlled for conservation purposes. All display cases are permanent frame-less glass cases and integrated into the architecture. Working with the proportions of the space, the showcases mostly house small artefacts. The internal joinery of the cases are either timber or fabric wrapped panels with small led lights integrated within the case.

Lighting in most cases are integrated within the cases and track lighting recessed into the ceiling.

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“Out of a desire to respect both the sublime works to be displayed and the natural setting, I made it my goal in designing the new Gallery of Horyuji Treasures to create on the site an environment of a kind that has become all too rare in present-day Tokyo, that is, an environment characterized by tranquility, order and dignity.”

- Yoshio Taniguchi,
architect, the Gallery of Horyuji Treasures

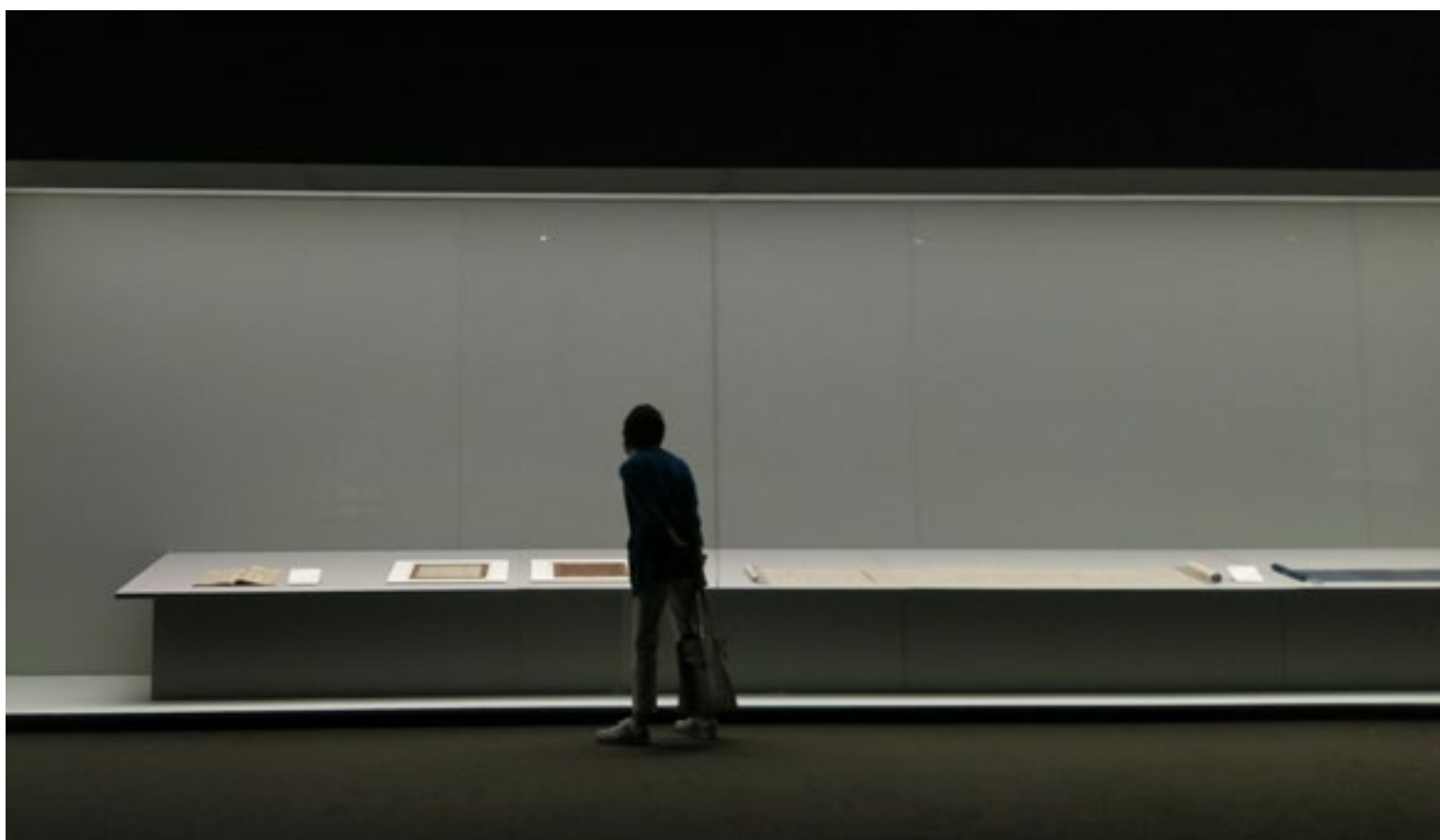
“The Gallery of Horyuji Treasures,” Arcspace, last updated February 03, 2003, <http://www.arcspace.com/features/yoshio-taniguchi-and-associates/the-gallery-of-horyuji-treasures>

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Exhibition spaces

The images in the preceding pages and this page illustrate both the exhibition spaces and front of house spaces. The top two images show the showcase types illuminated from within in a dark space with complete light control. The image to the right shows the library space now left unused.



// Rijksmuseum

Synopsis

The restoration to the original building built in the 19th century provides a contemporary case study on upgrade to services, spaces, circulation and infrastructure to adhere to contemporary conservation standards reserved for showing historic works of art. The design consideration in the restoration work borrows from the colour and material palette of the existing building whilst introducing very contemporary elements through temporary walls, exhibition furniture (showcases and suspended lighting tracks) and seating.

Architect: Cruz y Ortiz Arquitectos (restoration)

Interior design by Jean-Michel Wilmotte

Original design by Pierre Cuypers (opened in 1885).

Year Opened: 2013

Location: Museumstraat 1, 1071 XX Amsterdam

Total Floor Area: 30,000 sqm

Exhibition Area: 12,000 sqm

Description

The Rijksmuseum has been a working museum for more than 125 years and was designed by the architect Pierre Cuypers and opened in 1885.

In the year 2000, after more than a century of operation, it was decided that the building needed restoration and to be made compliant with international museum standards.

The € 375 Million renovation was financed by the Ministry of Education, Culture and Science and the Rijksmuseum itself and was carried out by the Spanish firm Cruz y Ortiz Arquitectos in conjunction with Jean-Michel Wilmotte who did the interiors of the galleries. Additional to the restoration of the main building, a small pavilion for the museum's small collection of Asian artefacts was also commissioned. Both the main building and pavilion opened to the public in 2013 and according to the museum the annual visitation to Rijksmuseum has increased from 1 million visitation per year to between 1.5 – 2.0 million visitors each year.

Collection / Art / Content

Collection of Rijksmuseum: approximately 6,500 paintings, 90,000 objects, 150,000 photographs, and 700,000 works on paper.

The museum has on display 8,000 objects of art and history, from their total collection of 1 million objects from the years 1200–2000. Among key works among there are some world famous masterpieces by Rembrandt, Frans Hals, and Johannes Vermeer. The

museum also has a small Asian collection, which is on display in the newly added Asian pavilion.

Curatorial premise

The Rijksmuseum is a Dutch national museum dedicated to arts and history in Amsterdam. The permanent exhibitions have on display paintings, images, historical objects and applied arts are displayed together in context, offering a comprehensive image of art and culture highlight the cultural history of the Netherlands. The museum has chosen the motto 'a feel for beauty, a sense of time' for this new setting.

Architecture

The brief to the architects was to restore the museum to Cuypers' original layout and re-instate it's organisational and material clarity. The resulting restoration stripped the building of its later additions to ensure that it is once again reads as a coherent whole.

The new design adds to the grandeur that defines the Rijksmuseum new facilities such as a new entry foyer, museum café, a shop and, importantly to preserve the art, climate-control and security features to the exhibition space which are compatible with contemporary international standards.

The new design also restores Cuypers' clear layout wherever possible. The monumental ornaments the once adorned the Gallery of Honour, the Front Hall, the Night Watch Gallery and the stairwells has also been carefully restored. Cuypers' hallmark is best preserved in the library where the original design and ornaments have largely been maintained.

// Rijksmuseum

(continued)

Entrance

The introduction of the big open light-filled atrium eases way-finding for the visitors and provides ample floor space for large groups to pool around the information desk, line up at the ticketing desk or transition to the exhibition spaces.

Galleries

The gallery spaces are buffered by a series of darkened spaces that lead to the Gallery of Honour. Wrapped around the Gallery of Honour are a sequence of different sized gallery spaces that have been designed by Jean-Michel Wilmotte. Spatially and materially consistent, the rooms have a range of works on display that include paintings and drawings on walls as well as artefacts (large-scale and small-scale) inside showcases. Lighting is introduced through a series of suspended lighting structures that conceal the tracks.

New Asian Pavilion

The Asian Pavilion, a small addition to the main gallery building can be clearly seen from Museumstraat and is surrounded by a shallow water pool. The natural-stone and glass facade contrasts with the red bricks of the main building. In the garden, opposite the Pavilion, are the Cuypers Villa and the Teekenschool. Between these, Cruz y Ortiz placed a small new building – the new service entrance, offering access to the museum via an underground passage.

Exhibition spaces

The exhibition spaces were predominantly developed by Jean-Michel Wilmotte who is a Paris museological, famous for the interior of Musée du Louvre, among other

galleries. Wilmotte has designed display cases, ornament lighting and plinths which fit in naturally with the old building. Black steel framed walls, showcases and plinths sit within dark grey-walled gallery space. Any new walls introduced has a thin steel plate frame with plasterboard lining which can be re-patched and painted if a painting is removed. These walls are anchored at one point to the existing architecture. The interior colour scheme was inspired by the Cuypers' original palette. New steel portal doors replace the old openings bringing an architectural consistency but also housing new security and fire services requirements.

The same treatment has been applied to the Gallery of Honour & Front Hall where original wall motifs have been restored. Lighting is provided via diffused indirect light entering each of the galleries. Dark coloured treatment to walls, flooring and furniture helps highlight the paintings hung in each space.

Civic Presence

The city cuts through the museum as both cyclists and pedestrians walk through the covered plaza. The light-filled foyer of the Rijksmuseum is visible from this pathway creating a very inviting space for the casual walker. Connecting Museumstraat and the old town Amsterdam, the Rijksmuseum sits on this important city axis like majestic palace opening up once the pedestrian is near it.

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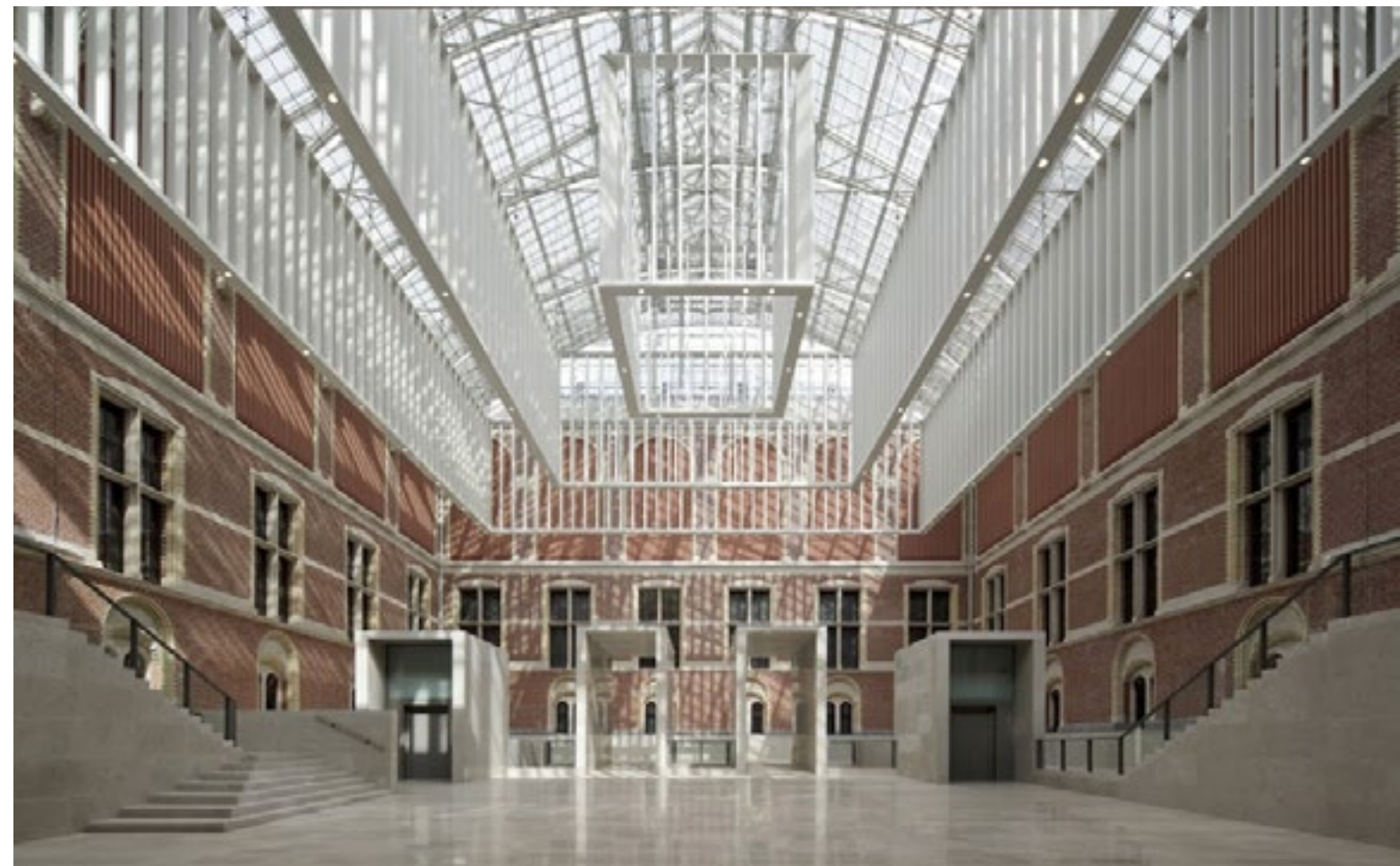
“Instead of fighting the building, we have embraced it and accepted its eccentricities. This was built as a national museum, not just an art museum, and we want the public to get a sense of history, seeing the paintings, furniture and applied arts that were all conceived around the same time.”

- Wim Pijbes,
ex-director, Rijksmuseum

“Glories Restored, Rijksmuseum Is Reopening After 10 Years,” New York Times, last updated April 01, 2013, <http://www.nytimes.com/2013/04/02/arts/design/glories-restored-rijksmuseum-is-reopening-after-10-years.html>.

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Rijksmuseum Foyer
Photo: Rijksmuseum

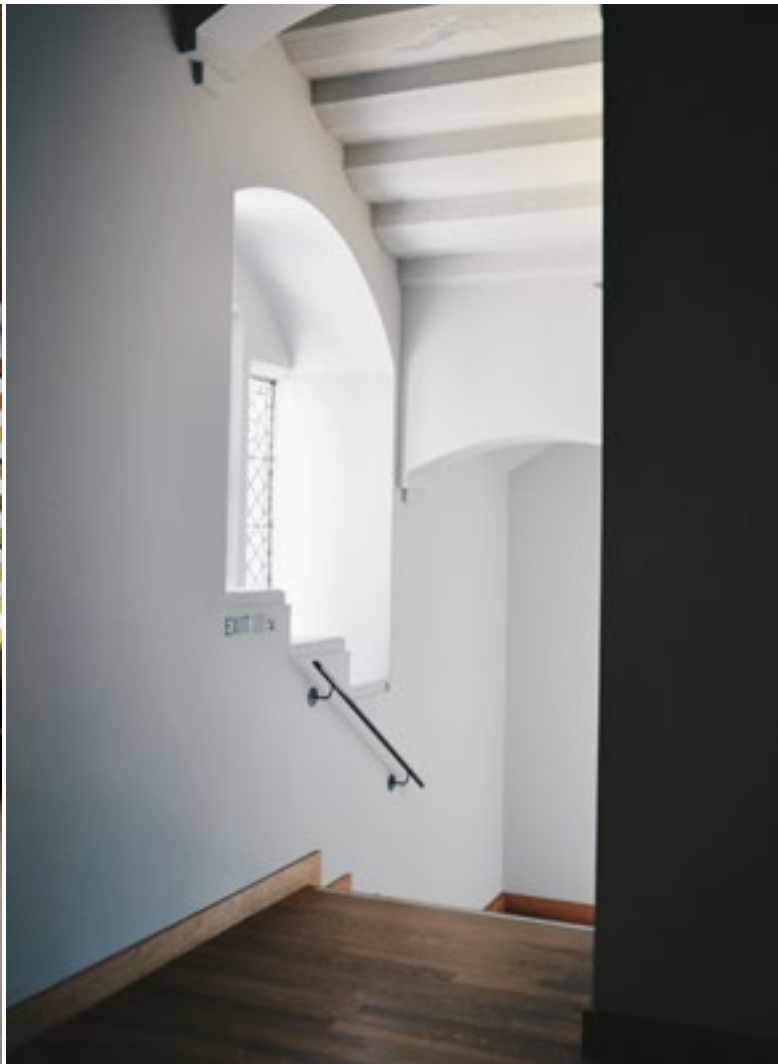




The building

The images on this page show the entry space (bottom left and right) and the new Asian Wing extension (top left) to the museum. Central to the restoration has been establishing a clear entry hall and circulation zones and a new wing dedicated to the museum's Asian collection.





Circulation, breakout spaces and the library

The images on this page show an example of a breakout space adjacent to the galleries with the donor wall behind (right image), the library (bottom left) and the internal staircase connecting the galleries (bottom right)







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5

Gallery for permanent art

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- // D.T. Suzuki Museum, Kanazawa
- // Teshima Art Museum, Teshima
- // Chichu Art Museum, Naoshima

The spaces and galleries featured in this section are a new typology in art gallery architecture. Commissioned for permanent art, these art galleries provide an experiential and prolonged engagement with both the art and architecture.

Often, in such spaces, circulation path is prescriptive and the no changeover of artworks means the flexibility in services (lighting, goods lift, loading dock etc) required by other galleries for content changeover don't apply to such spaces. Flexibility and adaptability of spaces and wall configurations is not an important aspect of such gallery spaces. Other functions such as ticketing and cloakroom are often located in a separate pavilion to not disrupt the experiential aspects of the museum.

The galleries included in this section work with the curatorial vision, the brief and the subsequent spaces is developed in close consultation with the architects from the outset of the project. As such, the architecture becomes part of the greater curatorial premise.

// D.T. Suzuki Museum

Synopsis

A bespoke museum built around the collection and teachings of renowned philosopher D T Suzuki, the design is guided by the philosophy of Suzuki with the spaces providing the visitor with an experiential understanding of the philosopher's teachings. The planning is guided by a linear path and all display spaces have an adjoining room or space for contemplation that eventually leads the visitor out into the landscape and reflection pool.

Architect: Yoshio Taniguchi

Year Opened: 2011

Location: Kanazawa, Ishikawa Prefecture

Total Floor Area: 662.00 sqm

Exhibition Area: 630.80 sqm

Description

In an unassuming suburban area of Kanazawa a small building offers an experiential journey of the teachings of prominent philosopher Daisetz Suzuki better known as D.T. Suzuki.

The museum complex is set in a small valley surrounded by lush gardens sloping down from Kodatsuno plateau.

Surrounded by stone walls and with views of the lush gardens surrounding it, the museum consists of three key pavilions: the entrance pavilion where ticketing, cloakroom and other facilities are located, an exhibition pavilion where key artefacts by and about D.T Suzuki are on display and a contemplative pavilion surrounded by a reflection pool.

Collection / Art / Content

The permanent exhibition consists of a series of scrolls by Suzuki and small artefacts and books. These are replaced for other temporary exhibitions that occupies the small exhibition pavilion.

Curatorial premise

The spaces within the museum and the journey through it is intended to evoke the teachings and world of Daisetz Suzuki. In the exhibition pavilion a long showcase and a series of smaller showcases offer the opportunity for small temporary exhibitions that tie with the philosophical teachings of The spaces within the museum and the journey through it is intended to evoke the teachings and world of Daisetz Suzuki.

Architecture

A series of pavilions are connected through covered corridors. Walking through the prescriptive path of the museum, apertures created in the architecture allow glimpses into spaces and gardens not yet encountered. Windows and openings play a big role in the framing of the spaces, lighting of spaces and creating a sense of anticipation.

The interior spaces are of modest proportions and left unfurnished. The spaces accommodate groups of 4-5 people comfortably and the exhibition and learning spaces are almost domestic in scale.

The contemplative pavilion is a double height structure with three openings and is surrounded by a reflection pool. Inside, a series of modest Tatami-clad benches invite the visitors to sit in quiet contemplation facing the reflection pool and the gardens that surround it.

Civic presence

Modest in scale, the front of the building is a single storey pavilion with a paved walkway leading into the reception/bookshop area.

Landscape

There are three gardens in the museum: the Vestibule Garden, the Water Mirror Garden and the Roji Garden. Through a prescriptive path museum visitors can learn about the philosophy of Suzuki as they engage with both content and space as they make their way through the pavilions and gardens.

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“The museum is composed of three interconnected structures, vestibule, exhibition space and contemplation space; these are paired respectively with the vestibule garden, the roji garden and the water mirror garden. I divided the museum into three structures to avoid monumentality and to give this facility an appearance appropriate to Suzuki’s unassuming character.”

- Yoshio Taniguchi,
architect of D.T. Suzuki Museum

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“D.T. Suzuki Museum,” MODUS news 4 (2016): 14.

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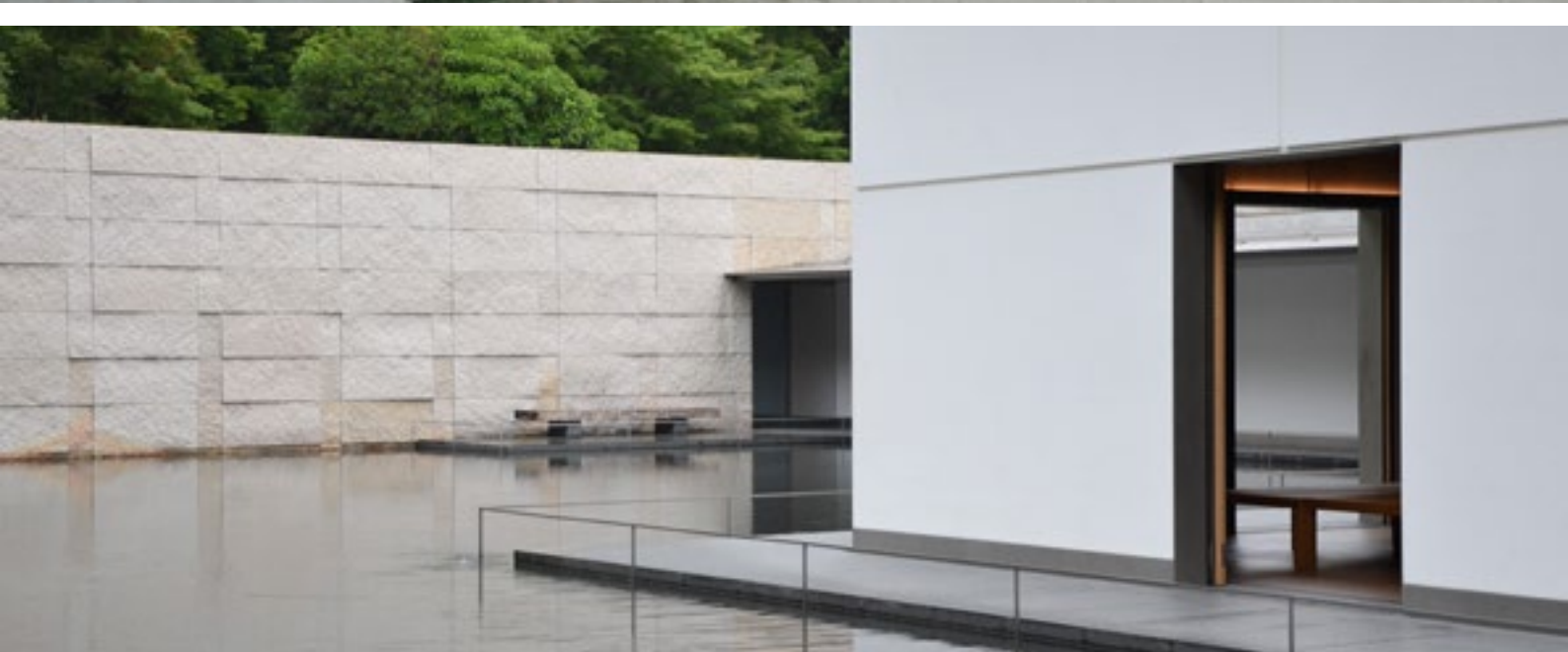
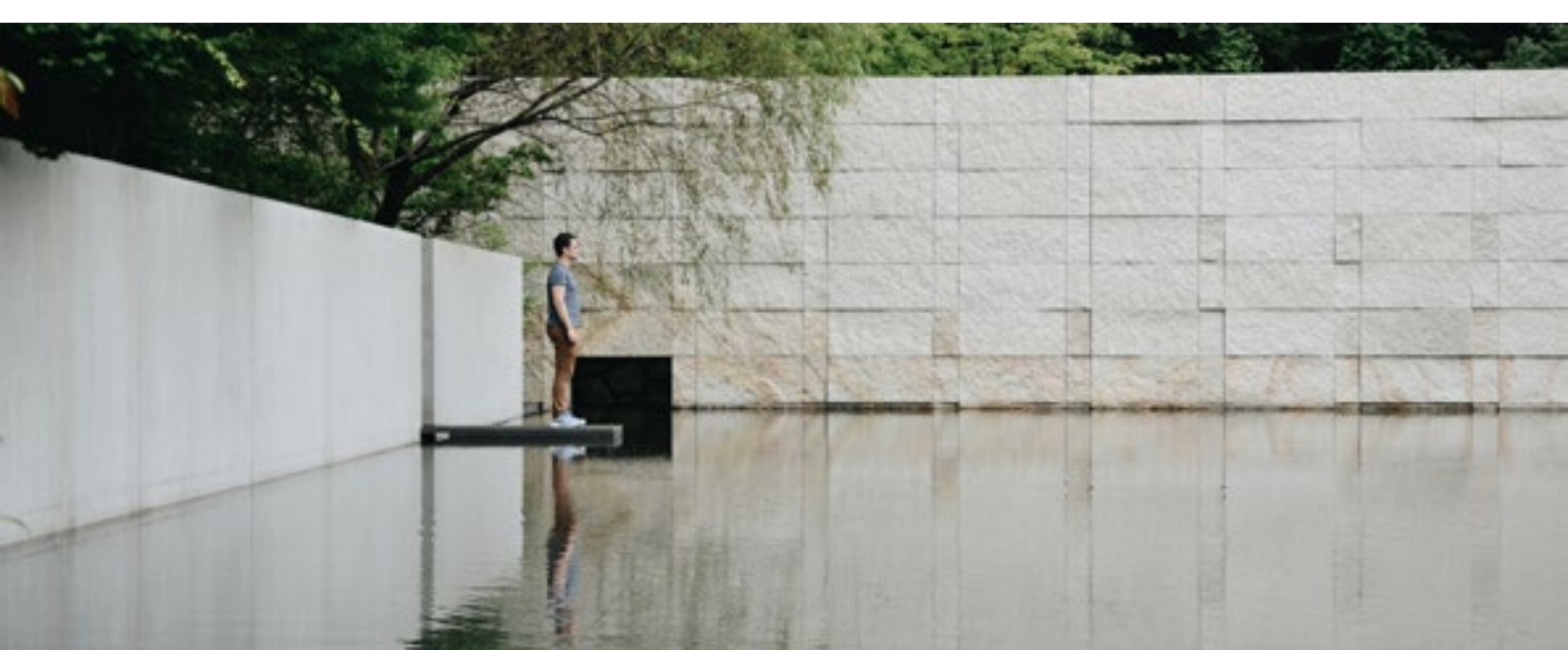
“Inside the exhibition space is a gallery of minimal size for displaying items such as Suzuki’s books, calligraphic works, photographs and correspondence and a learning space where small lectures can be held. A corner is provided facing the roji garden where books can be read in a quiet atmosphere.. The contemplation space rising from the water mirror garden is where visitors themselves can engage in contemplation”

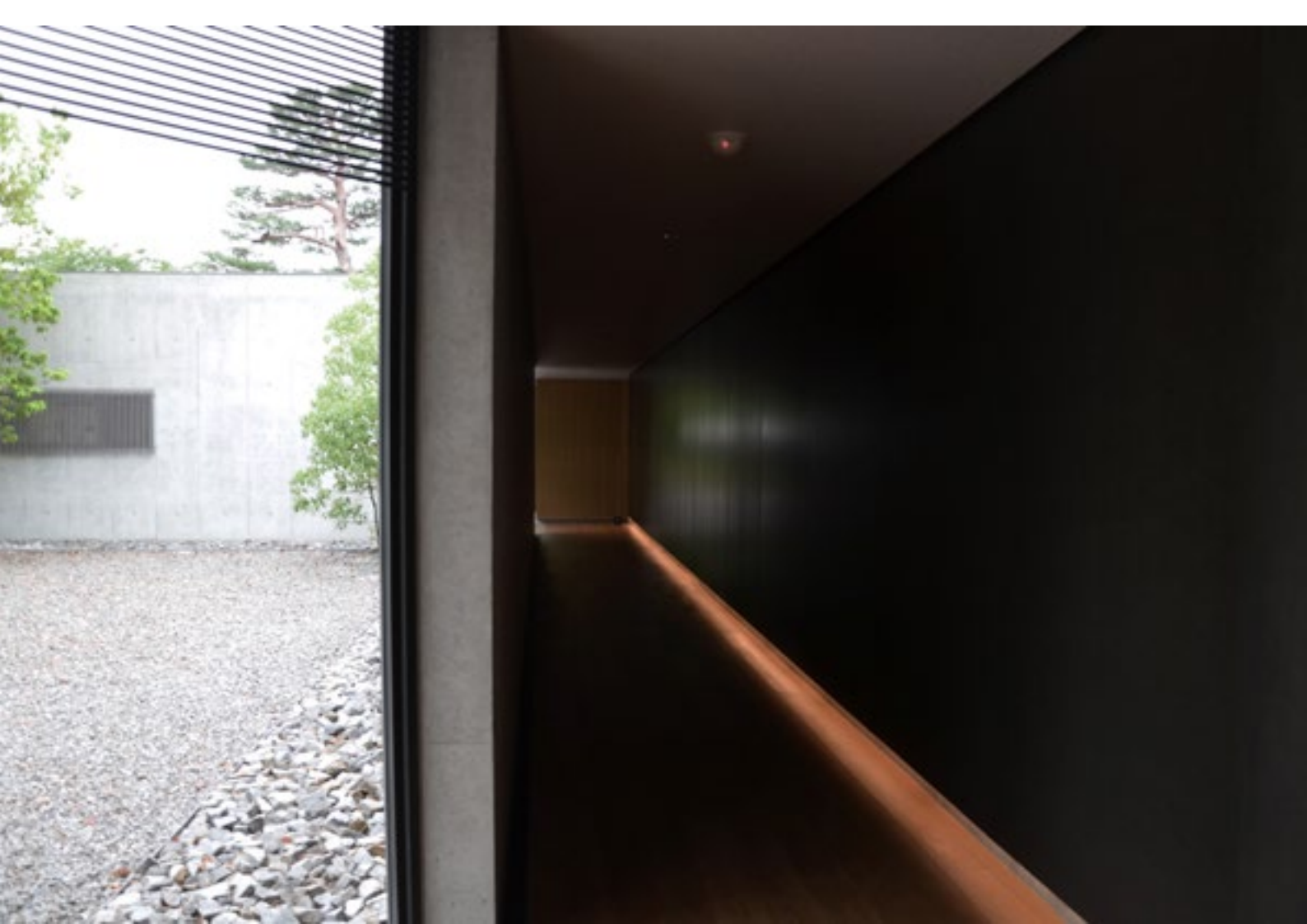
- Yoshio Taniguchi,
architect of D.T. Suzuki Museum

“D.T. Suzuki Museum,” MODUS news 4 (2016): 14.

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Circulation path and
external landscape

Above: internal corridor linking
ticketing / reception with
Learning and exhibition spaces.
Windows always connect the
visitor back to the landscape.

Left: Entry space into the
exhibition spaces.

Note: No photography of the
exhibition space was allowed.

// Chichu Art Museum

Synopsis

Designed for the permanent display of three artworks, the museum responds to its immediate landscape on which it is sited. An experiential journey is established through a sequence of pathways and courtyards that link the three works but also establish a strong connection back to the landscape of Naoshima Island.

Architect: Tadao Ando

Year Opened: 2004

Location: Naoshima Island, Kagawa Prefecture

Site Area: 9,990 sqm

Total Floor Area: 2, 573.48 sqm

Description

On the island of Naoshima, once a thriving fishing island, a museum comprised of three art spaces is embedded within a hill overlooking the Seto Inland Sea. Designed by Japanese architect Tadao Ando, each gallery houses a permanent display of art by three artists: Claude Monet, James Turrell and Walter de Maria. It is one of the many art spaces housed on the Island but the experience of the architecture in Chichu Art Museum is quite unique because of the unique display of art. The architecture was commissioned to respond the specifics of displaying the works of the 3 artists.

Chichu Art Museum is one of the many cultural sites and art space on the remote island of Naoshima. Chichu Art Museum is built as part of wider Benesse Art Site Naoshima project which spreads over Naoshima, Teshima and Inujima islands. By setting up a series of unique art experience spaces, the islands draws many visitors, both local and international.

Curatorial premise

Each pavilion within Chichu Art Museum is designed as a permanent display space with a unique ambient environment to present the work of each artist.

Collection / Art / content

Claude Monet Space

There are 5 Monet paintings in the Claude Monet Space:

- *Water-Lily Pond*

c1915 -26, oil on canvas

- *Water Lilies, Cluster of Grass*
1914 -17, oil on canvas
- *Water Lilies*
1914 -17, oil on canvas
- *Water-Lily Pond*
1917 -19, oil on canvas
- *Water Lilies, Reflections of Weeping Willows*
1916 -19, oil on canvas

James Turrell Space

There are 3 James Turrell installations in the James Turrell Space. The dimensions of each room is unique to each work:

- *Afrum, Pale Blue*
1968, projector
- *Open Field*
2000, fluorescent lights, neon tubes
- *Open Sky*
2004, LED lights, xenon lamps

Walter De Maria Space

There is only one work in the Walter de Maria space consisting of several components:

- *Time/Timeless/No Time*
2004, granite, mahogany, gold leaf, concrete

// Chichu Art Museum

(continued)

Architecture

A temple like experience is created for the art works by three world renowned artists. Conceived of as a series of concrete shells, the interior of the spaces have been furnished to create atmospheres unique to the art it houses. The Claude Monet Space is lined with marble stone (2cm x 2cm x2cm) floor, white plasterboard walls and a false suspended ceiling to allow indirect light to pour into the space creating a white, luminous space.

The James Turrell space is mostly devoid of light and has custom lighting to create atmospheres whilst the Walter De Maria space is left bare with concrete walls and one central skylight with slits around the four sides of the room to allow natural daylight.

Connecting the 3 art spaces are a series of ancillary circulation spaces that consist of two open-to-sky courtyards and corridors.

Circulation

The experiential:

A journey through light and dark, indoor and outdoor. The austere is only there to enrich the encounter with the bright light, colours and vividity of the works present in Monet, Turrell and De Maria spaces.

The practical:

Both stairs and lifts are provided within the complex though the visitors are led through the space via stairs. The lifts are concealed from view and is used predominantly by staff and for maintenance.

Materiality and light

Materiality and light are the key architectural motifs of this museum. The hard concrete spaces are balanced by the soft, light material palette used in the Monet space.

Natural light is another recurring motif within the space, slits through the concrete ceiling or concrete walls brings soft natural daylight into the in-between space whereas indirect natural lights shifts the ambiance of spaces in all three art spaces. Natural light has been integrated quite strategically to suit the atmosphere of each art space but also to compliment the art housed within them. The indirect natural light is perceived differently in the Monet space, rendering the paintings in all its vivid colours whereas the consistently shifting light of the Walter de Maria space plays with the materiality of the granite, gold and concrete throughout the day.

Civic presence

Located within a hill, the art museum is mostly hidden from the street level. Ticketing is located at a separate pavilion off -site and parking and is provided approximately 100 metres from the museum site. The visitors are encouraged to walk through the lush garden path along the main street toward the entry.

The experience of the museum begins below the ground with entry from Courtyard 1. Because the museum is embedded within the landscape, no elevation is perceivable, neither is volume and so the shape, boundary and extent of the museum remains hidden for the visitor.

// Chichu Art Museum

(continued)

The single entry and exit out of the building is not celebrated and provides a quiet introduction to the museum.

Landscape

Two open-to-sky courtyards connect the art spaces and add to the experience of navigating the museum complex. The high concrete walls of the courtyards bring a level of drama. Keeping the material palette of the spaces and the landscaping quite austere the art spaces are rendered more vividly.

Courtyard 1:

The first courtyard is a square courtyard has high concrete walls and is populated by rush horsetail, an evergreen fern variety

Courtyard 2:

The second courtyard separates the Claude Monet Space and James Turrell space from the Walter de Maria space and the museum cafe. Here the base of the courtyard is lined with limestone blocks, Ando's version of the Japanese rock garden. The visitor, here, is allowed to step on the limestones scattered across the base.

The shifting daylight changes the ambiance of these spaces.

Chichu Garden:

Taking inspiration from Monet and the depiction of plants in his painting, including water lilies, willows and

iris, the Chichu garden provides a real site and context to the paintings in the Monet Space.

Occupying an area of 1043 sqm, the garden is located on the museum approach from the ticket centre and greets the visitors as they enter the museum.

Environmental control

Though the museum is embedded in the landscape and remains cool for most of the time, the 3 art spaces and the shop and restaurant have air-conditioning and humidity control.

Controlled daylighting strategies add to the ambiance of the art spaces but also controls the amount of direct daylighting that enters each space.

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“As suggested by its name, chichu (underground), this museum is built below a slightly elevated hill that was once developed as a saltpan facing the Seto Inland Sea. Without destroying the beautiful natural scenery of the Seto Inland Sea and seeking to create a site for dialogues of the mind, this museum is an expression of my belief that “art must exist amid nature.”

- **Soichiro Fukutake**, president & founder,
Benesse Art Site Naoshima

Chichu Handbook: First Edition March, 2010 (Naoshima: Naoshima Fukutake Art Museum Foundation, 2010), 64.

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Chichu Art Museum
Photo:FUJITSUKA Mitsumasa





Claude Monet Space
Photo: Naoya Hatakeyama

.....

“ Chichu Art Museum opened as a museum in pursuit of “ a site to rethink the relationship between nature and people””

- Soichiro Fukutake,
president & founder, Benesse Art Site
Naoshima

Chichu Art Museum: First Edition March, 2010 (Naoshima: Naoshima Fukutake Art Museum Foundation, 2010), 64.
.....

Chichu Art Museum
Photo:Mitsuo Matsuoka



Chichu Art Museum
Photo:Mitsuo Matsuoka



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“Without destroying the beautiful natural scenery of the Seto Inland Sea and seeking to create a site for dialogues of the mind, this museum is an expression of my belief that art must exist amid nature.”

- Soichiro Fukutake,
president & founder, Benesse Art Site
Naoshima

Chichu Handbook: First Edition March, 2010 (Naoshima: Naoshima Fukutake Art Museum Foundation, 2010), 64.
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Walter De Maria
'Time/Timeless/No Time' 2004
Photo:Michael Kellough



// Teshima Art Museum

Synopsis

At this museum the architecture itself is conceived as part of the greater curatorial premise. Architecture is part of the experience of the singular work of art and provides the perfect spatial and experiential synthesis between art, architecture and landscape.

Architect: Ryue Nishizawa / **Artist:** Rei Naito

Year Opened: 2010

Structural engineer: Mutsuro Sasaki

Location: Teshima Island Takamatsu, Kagawa Prefecture

Area: 1,958 sqm

Description

Located on the island of Teshima, the Teshima Art Museum opened in 2010 as is built as part of wider Benesse Art Site Naoshima project which spreads over Naoshima, Teshima and Inujima islands. Overlooking the Seto Inland Sea, the art museum provides an immersive environment for the visitors on the remote island surrounded by rice terraces and a lush landscape.

Here Architecture becomes art in an environment where architecture more than frames the art but rather becomes part of the greater conceptual premise and experience. The architecture of Ryue Nishizawa sculpts the elements around the landscape providing apertures within the structure to frame the greater landscape and elements beyond.

Curatorial premise

The brief to artist Rei Naito was to develop an immersive artwork unique to the landscape and environment of Teshima and an installation that could be experienced by several people at once.

Art / Content

The resulting work titled 'Matrix' plays on the shifting environmental aspects of the island: light, weather and landscape. Droplets of water emerge from small pin pricks in the concrete floor and collect in shallow recesses under the two big openings in the structure. As light outside shifts, the ambiance of the space changes. Visitor movement and sound further activate the immersive forces of the work. Two ribbons suspended

from the ceiling come into being as they slightly sway to the movement of the breeze and catch the light flooding from the apertures in the ceiling.

Architecture

Conceived to be in harmony with both the site and its landscape, the art museum is a low lying column-less pavilion with two big circular apertures completely open to the elements. The concrete skin is only 250mm thick and floats above the visitor like a tent. The architecture is conceived with light in mind. The undulating shape of the art museum coupled with the apertures creates a shifting ambiance internally. The architecture of light is also apparent in the cafe/ shop as well as the reception area.

Landscape

A landscape that contains both linear (rice terraces) and organic landforms (natural formations), the overall approach to siting and landscape alludes to the context. A single linear path takes the visitor on a loop through a lush landscape of native plants and weeds. The architect's intent for the landscape was to create something in harmony with the local ecosystem of the island. In approaching the pavilion through this path, glimpses of the sea and greater landscape of the island beyond add to the experience unique only to Teshima.

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“ It was important to us to create an architectural space that could coexist with Rei Naito’s work, and act in harmony with the island’s environment. We proposed an architectural design composed of free curves, echoing the shape of a drop of water. Our idea was that the curved drop-like form would create a powerful environment in harmony with the undulating landforms around it.”

- Ryue Nishizawa,
architect

Teshima Art Museum Handbook: Second Edition March, 2015 (Naoshima: Fukutake Foundation, 2015), 36.
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Teshima Art Museum.
Photo: Belqis Youssofzay





Teshima Art Museum
 Rei Naito: Matrix, 2010
 Photo: Noboru Morikawa



Teshima Art Museum
 Rei Naito: Matrix, 2010
 Photo: Noboru Morikawa

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“ We intended for Teshima Art Museum to serve neither as a dwelling nor a sanctuary, but to be a place where architecture, environment, and art come together and evoke emotions of gratitude towards nature.”

- Kayo Tokuda,
former curator of Teshima Art Museum

Teshima Art Museum Handbook: Second Edition March, 2015 (Naoshima: Fukutake Foundation, 2015), 46.

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Teshima Art Museum
Photo: Noboru Morikawa





Top and bottom: Teshima Art Museum
cafe
Photo: Belqis Youssofzay

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*“ A space, just like that, comes into being
as something that goes back to nature as
it is”*

- Rei Naito,
artist

*Teshima Art Museum Handbook: Second Edition March,
2015 (Naoshima: Fukutake Foundation, 2015), 32.*

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Teshima Art Museum
Photo: Ken'ichi Suzuki



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Interviews

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- // Kazuyo Sejima & Ryue Nishizawa (Directors, SANAA)
- // Jesper Lund Madsen (Louisiana Museum of Modern Art, Denmark)
- // Steve Harris (New Museum, New York)
- // Brian Butterfield (The Metropolitan Museum of Art, New York)

Interviewed by Belqis Youssefzay. SANAA Offices,
Tokyo Japan, July 6, 2016.

BY – Belqis Youssefzay
KS – Kazuyo Sejima
RN – Ryue Nishizawa

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BY: I thought I should start with some general questions regarding your design approach towards art gallery and museums. I wanted to get your opinion on how SANAA is challenging the design of contemporary museums?

So taking Naoshima for example, everything is contained and hidden within landscape but what SANAA does is create these open, transparent spaces.

KS: If you look at the example of Kanazawa, each gallery is a box. We struggled with the design of this because of what the curator wanted. We proposed big cut-outs in the boxes so you could see through to the courtyard and create connection between galleries but somehow that made it un-functional as a gallery space.

BY: Was it because of the light coming in?

KS: Yes, and also because of the length of wall. And maybe this wasn't a big compromise to the design because they wanted to keep some flexibility for using the walls.

At that time, maybe 15 years ago, public galleries required architects to design big spaces with flexibility achieved through movable walls. So we discussed this with Yuko Hasegawa, the curator, and she hated the system. Now she is the curator of the public Tokyo Modern Art Museum. But her and us discussed designing walls that won't touch the ground. There was the idea of floating walls that don't touch the floor. When she discussed this with the artists they didn't like the system of movable walls. So this is where we came up with the idea of boxes so that the artists have control on how to show their work in each box. This was another way of dealing with the idea of flexibility which we discussed with the curator so the idea of having openings in these boxes made them less flexible which we then decided not to pursue. Instead through the design of simple white boxes the artists and curators can decide how to use the space.

BY: Now with the different sized galleries/ boxes that you

have decided to design, you are addressing the idea of flexibility in terms of which ones and how many the artists decide to use? And they are not using the flexible walls at all.

KS: Yes, the proportions of the box and open floor space are somehow similar as an experience so that people can enjoy the space inside the box and spaces outside the box. This way the curators can work with artists to develop different ways to utilize each gallery and it's atmosphere to suit the work. The front of house can also decide how to use the spaces outside the gallery.

BY: So I guess it does become a flexible gallery in the sense that you can have sculptures or paintings or projections, any kind of media can be accommodated?

KS: Yes, the atmosphere of each gallery can be adjusted to suit the art. So you can darken the space for video works and projections or light only certain objects in the space. You can also play with the dimensions of the space. For example if an artist chooses to put a small work in one of the big spaces, the (presence of the) object is felt more strongly. The architecture remains fixed but the perception of the visitor changes the dimension of the space depending on what is exhibited in the gallery. There is also no strict paths/circulation between galleries, the gaps and shifts between the galleries allows visitors to create their own journey.

BY: This brings me to Louvre Lens, was the approach similar?

KS: Louvre Lens is different because the focus is on specific art. The brief was to design one permanent gallery, the Gallery of Time (La Galerie du temps), that starts at 4000 B. C through to end of 19th century. You travel forward in time.

During the competition stage we proposed two boxes for this gallery but over time we thought that maybe one box is more interesting to design so we changed our approach during the

process of design. We decided to make the gallery at the end of time gallery out of glass so that there is connection back to the atmosphere of Lens.

BY: So can you talk about the concept for the competition?

KS & RN: We were working with three boxes, two permanent galleries, and one for temporary exhibition. We thought that instead of dividing the content (of the Gallery of Time) across two galleries its best if 6000 years of art is shown in one big gallery. There is something in the lining up of objects in one space that makes the visitor conscious of the flow of time. So this permanent space becomes a time tunnel, you travel through this to arrive at the glass pavilion that connects back to landscape.

BY: What was the thinking behind making the walls of the permanent gallery semi-reflective?

RN: Outside, the façade of the building is made of aluminum to reflect the surrounding landscape that has a strong history and an interesting archaeology. It used to be a coal-mining town. And now there are these hills, like pyramids that surround the site and we thought it would be interesting if the architecture reflected that. And on the inside, the skin reflects art and people.

BY: So did you use the same material for the interior and exterior of the building?

RN: Yes, we used aluminum with the same finish throughout the building.

BY: There is also the conservation spaces below the gallery where people are invited to look inside at what the conservators are doing. Was that part of the brief as well?

KS: The museum wanted to display the entire content present at the museum, not only what was on display but also artefacts in storage and in conservation. Because the Louvre in Paris is a very expensive building for architects to work with and to make these areas accessible, this meant that for this building we had to find a very contemporary way of revealing all artefacts to the (regional) public that can't travel to Paris to look at the artefacts.

BY: Have you taken this approach with your other museum projects where you reveal the workings of back of house areas and conservation areas to the public?

RN: Yes, in Kanazawa, this is part of the gallery program and there are late night tours of back of house areas.

BY: And do you find that it is increasingly becoming a requirement for art galleries and museums?

RN: Museums are trying to be something different, somehow more multi-functional, to be more than museum and more than a cultural experience and sometimes its about including a children's workshop and sometimes art libraries and sometimes a tour of back of house areas. So people have a better

understanding of art through other activities as well.

BY: So your understanding is that the we are changing in how we engage with art by including more than art on walls but having kids activity areas, art libraries etc.

RN: Now the museums in the world are trying to be more than a museum.

The museum becomes the place for meeting not just enjoying art but a place of exchange to create a greater cultural engagement. We try to incorporate these kind of space in our design for museums.

BY: This brings me to my next question, in SANAA's work there is a lot of in-between spaces and you usually have a strong spatial purpose for these spaces. So in Kanazawa, you have the transparent skin around a series of boxes and the people occupy these sites and they become places to meet other gallery visitors or just to read a brochure. Similarly in New Museum (New York) the space where the boxes shift vertically, the zone becomes the circulation space but also where natural light enters the building.

So when did this concept of utilising in-between spaces as a commune space appear in your architecture practice?

RN: One of the original ideas for this emerged in Kanazawa, where we thought of the architecture as a public park so people can enjoy the gallery how they would a public park. It is not a shop where people are expected to buy things. Creating architecture as a park, people can take their own time through the space. The in-between space is free space. In Kanazawa, the public can still use the spaces inside for free without buying a ticket to see an exhibition.

KS: There are two programs for the space (in Kanazawa), one is for art, the other is the communal space for the enjoyment of citizens. The in-between spaces then try to make a connection between the two programs.

On the idea of in-between space, in Japan we have historically, this type of space called Engawa, an area in front of the tatami space there is a kind of corridor. There is a space that faces the garden. This area is not just for the family but also for when the neighbour comes for a visit they sit at this place. So it is not as formal as the entry space but a buffer zone between the public and private areas of the traditional Japanese house.

BY: As architects working globally, is the need for multiple programs within the gallery something you have observed elsewhere?

RN: Architecture as a public park is an idea unique to Kanazawa. But it is a democratic approach to a museum, it is both a museum and an urban space and it is always something we have in mind when we design museums.

BY: And what about the idea of an art gallery as a space for more than art. In Louvre Lens, for example, the library, the function space, the café and the picnic area for schools are at the entry to the museum and are quite open and accessible.

KS: In Louvre Lens they mentioned in the brief, they wanted to show the same content as Louvre Paris but to make the experience more open and engaging so the other spaces in Louvre Lens emerged from the specific requirement of the brief.

BY: This brings me to the question of planning for an art gallery and a museum. You mentioned that the concept for Kanazawa was a public park. How do you approach a new project? Is there always a direct reference to the site and context?

RN: We start with the site visit and the client's wish. And the client's wish is not always easy to translate so it takes some time but with the site we let our first impressions guide us. These two things become our starting point.

Then we think about content and programmes required by the brief, that is how will people use the museum space.

BY: What is your urban strategy when approaching the design of an art gallery/ museum. Kanazawa, Louvre Lens and New Museum are drastically different in the way you have approached the site. How does the museum begin at an urban level?

RN: Architecture always begins and stays with the context. What kind of nature, what kind of town, and landscape informs the architecture and they all need to be considered together.

KS: And the architecture doesn't start with one idea, many things inform it. First it's the brief, then the site, then the programme for all the spaces. So many things affect the urban strategy. New Museum is a good example. The scale and height of the building had to work with what existed in that area. Then the materiality and structure were informed by the surroundings.

In Kanazawa, we wanted to open the museum to the city. You enter it from 4 points so the architecture as an urban site was accessible in 360 degrees.

BY: When I was recently discussing your (Sydney Modern) project with Michael (Brand), and how it is developing I was saying to him that what is fascinating and unique to your approach is how architecture frames the visitor in the landscape. Being in the building is a way to be in landscape. Your buildings never fully enclose the visitor but there are always these connection points back to the landscape or city beyond.

KS: Yes, it is a gradual process of revealing the landscape and coming back to the idea of in-between spaces, is important how to connect the spaces naturally back to the outside landscape. We think about that a lot. We talk about being in harmony with nature, not for either of them to disappear, but for architecture and landscape to co-exist. Especially with Sydney case, we found the topography quite dramatic; the sea, the bay, the city, the gardens and the Opera House. And then there is the existing gallery. From the beginning how to be part of the landscape was quite challenging for us.

BY: I keep coming back to this idea that, globally, art spaces are no longer self enclosed and disconnected from the landscape. Then there is the question of the skin and one of the key features of a SANAA design is the skin and how that mediates between the inside and outside. Also your buildings almost lack elevation, it is read the same from all sides.

KS: We don't design focused on elevation but try to create experience that is consistent from all sides. So there is no front and back in most of what we try to do especially public projects.

BY: One consistent approach to your design is the idea of transparency and this is often explored in the (materiality of) façade.

KS: It is not so much about the material but about planning and how to connect to the surrounding area. This is the dominant idea. And of course the truth is the between an opaque wall and transparent wall, from a visual point of view people, understand this connectivity better through transparency.

BY: How do you deal with the issue of light control in a gallery context?

KS: We introduce a second skin by making a buffer zone between the interior and exterior skin. This can be achieved quite efficiently.

BY: With most of your works, the end result is very aligned with the SANAA's design of clean, open spaces. How closely do you work with other consultants lighting designer, structural consultant, exhibition designer when developing an architectural idea and a space?

KS: For example with the design of the façade and to get the result we want, we work very collaboratively with the structural engineer. Otherwise the structure can be really ugly so we have to work closely with the structural engineer to get clean, beautiful façade we want.

RN: Structural engineer is one of the most important consultant for us. We work very closely with them from the starting point until construction. You are talking about walls and asking us about walls but we work with the idea of frames both as an internal language as an external structure.

BY: Can you please describe your collaboration with the landscape architect on these cultural projects.

RN: We prefer to start to work together from the concept stage. It is important to develop an idea together.

KS: At the same time, it is very important for us that the landscape design works with the greater architectural idea.

BY: And what about the idea of working on the internal language of the galleries. So, for example, in Louvre Lens, the Gallery of Time has a very specific exhibition design for the historical artefacts but also something that is sympathetic to the architecture. Is this something you developed in close collaboration with the exhibition design.

KS: Yes, we worked very closely with the museographer for the Gallery of Time to develop this language, it was important that there was a unified design. So both museographer and curator were important to the process.

BY: What was the process of collaborating with a museographer?

KS: We collaborated very closely. We had a big model of the interior and he would develop designs within that and we then would go through this with curators.

BY: Have you had a similar collaboration with a museographer elsewhere?

KS: In France, the museographer is very important to the process. Elsewhere, the designer or the architect is asked to develop the exhibition as well. So we did one of the exhibitions for Kanazawa, only once. We have designed exhibitions ourselves for some museums.

BY: Often architecture and exhibition design are seen as separate things but they are one and the same thing. Sometimes the artifact references the building. So for you when you design an exhibition, does the process start with the artefact or the space?

KS: For a museum, interesting content generates interesting architecture. Internally the design of exhibition spaces are quite challenging because architecture has to become invisible but not too invisible. We have often been invited to design exhibitions in buildings by other architects. So that has been an interesting process.

RN: Historically there has often been a strong relationship between architecture and art. In some traditional Japanese buildings, an element in architecture, like a column with decorations is a work of art so in that sense there hasn't been the separation between architecture and art.

BY: How closely do you collaborate with curators when developing a design for an art gallery or a museum?

KS: For the Louvre Lens there were two phases of working with curators. In Louvre (Paris) there were eight art departments that had never shown works together. They were independent departments. But for Louvre Lens that had to collaborate. They had many meetings together and we were invited to join some of the big meetings. Our local museographer (Studio Adrien Gardère) was part of these meetings too and then we they made the selection we joined them to started the process of showing the art.

BY: In terms of the content / collection of an art gallery, do you find the process of design to be very different for a contemporary collection vs a more historical collection? Does the environmental and light control levels required by different types of content affect how you design the space?

KS: Yes definitely for Louvre Lens. For the time gallery we had very strict conditions for the space. They were strict against natural light but were open to the idea of indirect light coming

from above. So the ceiling architecture are a series of operable louvres that address this. There are two layers of louvres, one (set) is above the glass that can be adjusted to direct light toward the interior and on the inside we have fixed louvres.

In both museums there is also controllable architectural light as well. As for humidity and environmental control, (apart from air-conditioning) we deal with it with issue through architecture and creating buffer zones between the glass and the interior of the space.

Similarly in Kanazawa we have adjustable (mechanical) louvres above the glass ceiling that can control natural light levels for the gallery spaces. Even though the artwork is contemporary we have similar environmental control in the spaces.

I recently completed the Hokusai Museum and in that museum the content is mostly paper. So in Japan we often work with content that doesn't allow any direct light either. The space has to be sealed from any natural light.

BY: Do you work with specific lighting specialists for the architectural lights?

KS: We design the lights and create a strategy for lighting but of course we work with specialists to achieve what we want. We often work with existing products (hardware) but we change the detail a little bit to suit the design.

BY: Do you work with any specific lighting consultants? I know that you worked with Arup on the New Museum?

KS: We usually have two or three consultants that we work with on most projects. Arup is a big international firm so we work with specific people within their office repeatedly.

BY: Besides Sydney Modern Project, what other art galleries and museums are you working on?

KS: Yes, we are also now designing Hungary's New National Gallery in Budapest. We have just started the concept.

BY: Is the brief similar to Sydney Modern Project?

KS: No, it is mostly a historical museum with a historical collection of mostly sculptures and paintings.

BY: Now that I am travelling to look at best example art galleries and museums, can you tell me about art galleries and museums that inspired you?

RN: In Paris I love the Louvre Museum and Palais de Tokyo.

BY: Why Palais de Tokyo?

RN: It's a great building and I like the recent renovation, very simple.

KS: The spaces inside are really big and impressive. Also the Louis Vuitton Foundation in Paris. The outside is beautiful but the galleries inside are a bit restricted spatially. I like the

connection of the outdoor terraces to the art space and the views back to Paris from the terraces is really beautiful.

BY: What are some of the galleries I should see while I am in Tokyo?

RN: Hara Museum up in the hills outside Tokyo. It has a great collection of contemporary art.

KS: Originally it was a rich man's house. Now it has been converted into an art gallery.

RN: Also there is the Bathhouse gallery. It is a private gallery that used to be a bath house and has been renovated. It is near Ueno. And there is another beautiful gallery which is not open now called the Museum of Modern Art in Kamakura. It is one of the best examples of modern architecture in Japan.

BY: The Horiyu-ji Treasures Museum (by Taniguchi and Associates) has been recommended to me.

RN: It is built very well, good construction. In Ueno there is also a beautiful park near the museum.

KS: Yes, it is very high quality in its construction.

BY: Is there something in Osaka that you can recommend for me to see?

RN: Yes, (Tadao) Ando san did a few museums there. I have not been there for a while but you should see them.

KS: Are you going to Naoshima?

BY: Yes, I have both Naoshima and Teshima on my itinerary.

KS: And where are you going after?

BY: Then I go to Osaka and fly to Berlin.

KS: There are great museums in Berlin.

BY: Yes, looking forward to seeing two buildings by David Chipperfield there. Would you recommend anything else for me to see in Europe?

RN: There is a beautiful room in Beyeler Foundation designed by Renzo (Piano) in Basel. There is a room for Monet and at the end of the room there is a window, its open to a lotus pond outside the gallery. So you see the scenes of Monet's painting outside in the landscape.

BY: So it creates a sense that the landscape of the painting continues past the gallery?

RN: Yes and there is a sofa in the space so you stay with Claude Monet's painting as long as you like. The natural light changes in the room, it's kind of crazy but so special.

KS: Yes and I like to go in the morning when the curtain is open because it is important to see the landscape beyond.

BY: Chichu Art Museum has a Monet room too. What are your thoughts on that museum?

RN: Beyeler's Monet room benefits from connection with landscape and natural light. Chichu's Monet room is like a science fiction space. The architecture of the museum is great, although a little too closed.

Ando san made another small gallery for James Turrell in Naoshima called South Temple. It's a timber pavilion with one light installation inside and its beautiful. You must visit.

BY: Thank you both for your time. Hope to see you when you are in Sydney next.

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Interviewed by Belqis Youssofzay. Louisiana Museum of Modern Art, Humelbaek Denmark, July 26, 2016.

BY – Belqis Youssofzay

JLM – Jesper Lund Madsen

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BY: I understand the Louisiana Museum was originally a house?

JLM: Yes it was a house, a 19th century villa that has been extended many times. The architects carefully considered the landscape before they started drawing. As you can see the architecture is closely associated with the landscape. The interesting thing is that they first built one wing, then added another and so forth, and a concert hall – but it was more or less conceived like that from the beginning. In close cooperation with Louisiana's founder Knud W. Jensen. To get the full details of the history of the architecture I will recommend a book by the American architect and writer, Michael Sheridan on Louisiana's architecture and landscape, which will be released in the spring of 2017.

BY: It is very popular how do people get here?

JLM: Many people come by car, but we are on the coast line train. It ends in Sweden, Helsingborg. And in the other direction it ends in Copenhagen or Malmö. It is quite easy to get here by public transport.

BY: Who was the architect?

JLM: It was the same architects throughout, Jørgen Bo and Wilhelm Wohlert, and it remains the same architect studio who is in charge of renewals and new constructions today. The original architects themselves have passed away, but the studio continues.

BY: You have a permanent collection of both modern and contemporary art. Is that it? Do you show other works or have a travelling component of art works?

JLM: We usually have an exhibition of our own collection on show and at the same time we have 2-3 temporary exhibitions based on loans. We are known for our own collection, our

classic works like the Giacometti's. This is what people expect to see when they come here.

We have 4 different exhibition areas or wings as we call them. West, where we are now, the North wing which is also a hall way area and as a gallery the most limited... you'll see there are certain limitations. Then there is the East Wing and the South, down here, which is the biggest.

In general art works of today are not getting any smaller. Both weight wise and size wise we have met some limitations. As we walk around I can show you some weak spots. Entrance doors might be large, but behind them the next door might be quite narrow. Here we are limited to the door size.

BY: Do you have a temporary wall system?

JLM: We have the permanent walls but we always to some degree adapt the architecture to the current exhibition. It should be for the art. We are fortunate to be able to do so. We can customise for any show.

BY: Do you have in house curators who curate the shows?

JLM: Yes, we have 8 curators including our director Poul Erik Tøjner, who is also making exhibitions.

Here is another limitation because of the stairs. We have lifted enormous things up there that have required scaffolding and large customized gantry cranes to get them up and down. But that's the fun thing about making exhibitions, that's the joy of it when you achieve it and it looks so simple when we're done.

BY: With your temporary walls, what materials do you use?

JLM: It could be MDF or it could be Plywood. Chipboard. We have a workshop and a small team skilled carpenters and painters too.

BY: Do you reuse or recycle?

JLM: Unfortunately, we cannot store anything if it is not being used, we would love to reuse more but in many cases, it is not possible.

We do have some storage rooms. To store things is really expensive, the items must be of great value. We only store for example a certain size wood, podiums? Maybe not.

We need a lot of space behind the scenes for manufacture, because when we are building new exhibitions it is really fast shifts. We really need everything handy.

But storage is a big issue. 5 years ago we had a new storage facility built a few kilometres from here, for art works and everything else. Actually, we have just bought a quite large storage space for other facilities. You would seldom think of storage when designing a building, it simply takes up too much space to consider.

Our new storage unit is based on the principle that it should be neutral energy wise. We are not heating or cooling, but we keep the relative humidity at 50%. The building is made of large amounts of concrete, which is a perfect climate buffer, so you see the yearly temperature fluctuation is quite small, ranging from 8-15 degrees Celsius.

We also have a small in-house art storage where we keep some of the popular works frequently exhibited.

We have an exhibition in the South Wing showing approx 100 recent acquisitions. Try to imagine the space needed just for that. These items were bought after we had built the new storage.

BY: Who is in charge of purchasing art works? Are there certain funds available for new art works?

JLM: Primarily the director together with one of our curators who is head of acquisitions. We primarily rely on fundraising for acquiring new art works.

Let's have a run around the North Wing

There is a story about the founder of the museum that he would leave the key under the mat for visitors. And we treasure the idea that you can go outside from the gallery spaces into the sculpture garden and the fresh air.

BY: What about your services, such as lighting? Has it been upgraded?

Services are gradually being upgraded all the time, the lights here are going towards LED. It is a question of when we have to make an investment - we need to be quite sure because a lot of money is required to upgrade the whole building. The most sustainable option may not be the most desirable. We have to consider a variety of parameters. But slowly we are changing everything, as you know you cannot get many old bulbs any more. This year we will have new lighting in the South Wing as the first major lighting project.

BY: Some of the institutions I have visited have been comfortable showing work in daylight. What is your protocol? Because we have very strict rules in Sydney that certain works cannot be exposed to daylight. Above 50 Lux.

JLM: These are international standards and it is the same here.

The only exceptions would be the old villa hall way and the concert hall where you can see beams of sunlight coming in. We are quite aware of these issues and apply UV-filters on the window whenever necessary.

BY: And you control the temperature, climate control?

JLM: Yes, we abide by international standards, i.e. appr. 20 degrees Celsius and an RH at 50%, in every gallery.

BY: Do you loan works to other institutions?

JLM: Yes.

BY: And you stipulate that the works but be shown only under these conditions?

JLM: Yes, it is part of the business of interchange between museums.

This is another example of how the landscape relates to the gallery. This is the sea garden where you can also have a walk or sit for a while, make your own space down there.

This is the children's wing. Where kids play, make paintings or sculptures. They can also walk out from here into the Sea Garden.

Talking about the limitations, you can see this is a quite big room, we have to crane works into it. You can see that we do not have a lot of clearance here, the doors are not very big.

It is a beautiful space. There is a small exhibition space underneath, when we don't want it we can just close it off.

BY: So what do you think of the flooring, in a sense that is all brick? Do you feel there are limitations if you ever need to get power into the space?

We have services in the ceilings. We have our own crew of electricians, so if we face problems we can plan our services for the show. Usually run it somewhere through or along ceilings or walls.

Multiple sculptures have been placed in the garden so you can see them from inside. Though you must go outside for certain sculptures to really have an impact.

Talking about daylight, this is one of the exceptions you will see. If the sun is quite low it may hit an art work exhibited here, so fragile works wouldn't be located here. The low sun is a particular phenomenon for a few months a year here in the North.

This concert hall is from 1976. We have two very large paintings down here and we have daylight coming in. But these works are part of our own collection and made specifically by the artist for this particular room so they are on permanent view here. We have classic concerts all year round here. This is a nice place to have concerts, the acoustics are very good, and the paintings take part in creating the atmosphere.

BY : And this is accessible to the public if they just want to walk in?

JLM: Yes, yes it is.

Over here you get the idea of how it is situated close to the sea. These sculptures were made for this exact spot.

BY: What about that thing? (The Pyramid, Poul Gernes)

JLM: This is a structure that we have built as part of the present exhibition featuring Poul Gernes, a Danish artist. Not very well known outside Denmark, but important to the Danish tradition. He died in 1996.

BY: How long has this sculpture been here?

JLM: About 2 months, relatively new. The sketch was drawn by Poul Gernes in 1967 and submitted as a proposal for a public sculpture. It did not win the competition and was never built so this is a scale model reconstruction made by Louisiana's carpenters.

We actually have underground exhibition rooms right under this lawn here so the entire building forms a kind of a circular form making ends meet.

BY: Does it have windows?

JLM: It doesn't have windows. Originally made for showing graphic works.

You should be able to find your own space out here in the gardens regardless of how many people there are. And of course you can bring your own wine and food, but only if you picnic in the garden. This is part of the original concept for the Louisiana.

Would you like to see the boat house and part of the old house?

These are the back area functions. The back of the kitchen. The old house by the sea are curators' offices. And next to that you see our small guest house with five rooms for couriers and artists on the top. Underneath we have a room used for meetings and social events, things like that. It is an old boat house. Of course, it has been renovated but you can see the old structure, the original wooden beams.

BY: So the art works, they come through here?

JLM: Or if we have just a single piece that is really big. Containers, trucks, stuff like that we can handle it here.

BY: I love how it is quite concealed.

JLM: That is also I think a part of everything, it should be quite neutral, not intrusive.

BY: This is where you bring in your big art works?

JLM: Well, it is an option and sometimes the only option.

We will go to the café and then continue our walk underground. We have a library in here, for the staff and researchers. It used to be an old storage room.

BY: Is it staffed?

JLM: We have a full time librarian.

This is the big gallery, the Hall Gallery, that I was talking about. This is the Poul Gernes exhibition that you can see here which relates to the Pyramid outside.

BY: The Picasso is an exhibition on loan, where did it come from?

JLM: The Picasso museum in Barcelona.

BY: What is your square meter area, it is quite a big gallery?

JLM: I believe it is around 10.000 square meters.

This is a Yayoi Kusama work, always very popular. Especially since the Kusama show not so long ago.

BY: Do you have much of her work in the collection?

JLM: No, we have just this installation and a video work as well but that's it.

At some point this room here along with the room upstairs was meant for an art work by Joseph Beuys, but it was never completed. The artist died. So now the two small rooms are often used for showing movies.

During the Kusama exhibition it was crazy, we had to limit the number of visitors in the Kusama galleries at any one time. To say to the guests you cannot enter for half an hour! We had a temporary coffee stand for queuing guests.

The other problem was that all the other wings were closed at the time, so we had a queue to get into the museum, a queue to go into the exhibition and then numerous queues inside the exhibition to see the environments and room installations.

I think we should go to have a look at the old villa.

This is the villa. We'll just sneak down to look at the new renovations. You can see everything has been cored out, they are laying new floors.

BY: So what will this be used as?

JLM: This is where the new ticket office will be. And there will be an entrance for groups. You see more and more tickets are sold online direct to phones, like tickets for buses and trains, so when they enter here they will be able to scan their tickets.

BY: Do you have one ticket entry or special ticketing to different areas?

JLM: One ticket, that's actually a good question because I am always puzzled when I go to buy a ticket at other museums: "What is this actually for?", but here you buy a ticket which allows you entrance for the entire museum.

BY: I think that makes it much easier.

JLM: Yes it does. Children under 18 are for free and there are various discounts if you are a member of the Louisiana Club (<https://en.louisiana.dk/louisiana-membership>).

Then the shop is right behind you.

These nearby galleries we often use for exhibiting our own works. The rooms are more or less as they were back then.

And the technology shifts so much, a ticketing desk these days no longer has need for a large space in front.

And then the discussion of whether ticketing should still be person to person or will this disappear? We have new visitors, a lot of young people coming in later years, we have never seen this segment in these numbers before. Something is happening, it's a really good thing.

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Steve Harris
Facilities Director at The New Museum of
Contemporary Art, New York

Interviewed by Belqis Youssofzay. New Museum,
New York USA, August 12, 2016.

BY – Belqis Youssofzay
SH – Steve Harris

BY: How do you get works in?

SH: It's a very vertical building. The lot is 60ft wide by 100ft deep, so it really is quite tight. There is no other access than you see at the sidewalk.

The loading dock has two gigantic doors that swing in from the street, they are the entry point for all art that comes and goes, we call them the King Kong Doors, they are just gigantic. It also means that we have no loading dock per se. Trucks need to have lift-backs, our art handling and registrar group need to take (the art) off the truck right there in the street. It can be a very interesting operation; it is a fact of life as a type of museum that doesn't have a permanent collection. Everything changes every three months.

BY: Does this affect your contractual relationship if there are certain things that you can't get into a building?

SH: Those are the kind of things that have to be worked out, our curatorial and exhibitions departments manage that. Meaning they analyse what the requirements are, and push the envelope to right to the limits.

Other than the size of the door on the loading dock, the next limitation is the size of the freight elevator. We have arranged with the elevator service company to load on top of the elevator car, but very rarely has that been done. For instance, for a canvas that is rolled up, but too long to go in the car diagonally.

We have no easy way to crane anything from the street though we have craned objects to the top of the building, you will notice a Chris Burden sculpture that was erected on top of the building about 3 years ago ("Twin Quasi-Legal Skyscrapers" 2013) in addition to the boat hanging there, also a Chris Burden ("Ghost Ship" 2005).

BY: Was there a brief when engaging the architects?

SH: I was not here at that point in time but there was an effort a request to make (the freight elevator) as large as feasible with a meeting point at cost. There always seems to be the aesthetics versus the functionality issue... It's a very tight balance.

SANAA had made an effort to introduce natural light into each of the gallery spaces, Ironically the curators don't necessarily want that. Most shows, they want to be able to control the light very tightly. Remember that certain loan agreements will stipulate lux levels to protect the work.

With 4 shows a year in the 6 years that I've been here, only a couple shows have left the skylights open. When they are open however it is spectacular, it bathes the floor in wonderful light.

The Museum purchased the building next door in 2009. In 2013 the space on the 2nd floor was renovated for "New Inc". It is a Museum led incubator, co-working space. We have also experimented using (231's) first floor as a public gallery space. It did not have sophisticated environmental controls, so we are limited by the kind of work we can show but it is interesting. There are also residential tenants occupying from the 1970s. In the future, we may be doing new things in that space.

BY: Who owns this land and building?

SH: The new museum is a not-for profit with a board of trustees. We get some of our funding from grants from corporation and government entities and from private donors. I understand that we are unique in that significant percentage of revenue here comes from ticket sales. So, we need to have good attendance. We have an annual fundraiser gala, which contributes a very big part of our operating revenue.



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Steve Harris
Facilities Director at The New Museum of Contemporary Art, New York

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[Tour begins]

The mezzanine has a small storage area and a woodshop where we make a lot of our gallery furniture, plinths columns etc.

One of the things people are surprised by is the proportion of overall space in the building used mechanical equipment. On the 7th floor, is the sky room, the top floor occupied by people, beyond that (8, 9 and the roof) is all mechanical.

We are enrolled in a program and we receive a rebate to voluntarily reduce our power consumption during prescribed times. On days that the electrical grid is stressed here in NYC, the power authority ask us to reduce our consumption. Today, during the hour requested, I will shut down one of the air-handling units for a period of time. Typically, I'll not do it to a gallery or public space, but today much of the office staff are away so I may shut the staff floor for an hour.

BY: How many staff do you have?

SH: Our office staff is around 100 people, including curators, administration people, education staff, accounting & development - people who are involved fundraising. That is a lot of people for this building.

(The New Museum has) a pretty expansive mission; In addition to New Inc , we have a program called "Idea City" too, which is a type of extension of the Museum's philosophy of "New Art, New Ideas" - there are a few people who work on that. Our curatorial team is led by Massimiliano Gioni. We have 5 curators and their associate curators and interns. A few full-time people as exhibition staff and a quite a few part-time staff.

--- The Sky room

We have polished concrete floors in the galleries and in the lobby, this is painted epoxy (on cement). It is not my favourite in that it takes a beating and it is a light colour.

--- Staff Area on Level 6

This is a relatively modest area. My sense is that the intention was to be as economical as possible on the on the back of house, it works ok but the acoustics aren't great. They used polycarbonate partitions in place of glass.

I think what is interesting here are the views that you get to the exterior through the expanded metal mesh façade - it feels a little enclosed. Whereas in the back there is no mesh because it is not facing the street. Openings on the rear, meaning the east side, don't have the mesh over them.

This is our classroom, normally it does not have lockers here, but our youth programs are working out of this space now.

BY: So this is where they hold classes?

SH: Yes, but we're very tight on meeting space so we also hold many meeting here as well.

---Restrooms

Here are the restrooms. We recently convened our "All Gender Signage" committee. This is a change that many US institutions are currently managing. Where we have individual stalls we're ok but when one is designed as a men's room and the other a women's room we have troubles. In the interim, we are trying to handle it with changes in signage but in future some restrooms will have to be rebuilt.

BY: Was that a law that changed?

SH: It is changing and the Museum wishes to be ahead on inclusion. We have done a bit of research on best practices.

Gallery Space Level 4 ---

So when I talk about energy efficiency, this is maybe 2000 square feet, it may not sound that large but it's a huge volume of air to circulate when you're heating and cooling.

BY: How do you get to the lighting tracks?

SH: We have a scissor lift that we own. One thing about this is Museum is that walls go up and walls come down. There is a great deal of construction and demolition going on between shows. A real eyeopener for me is how much the Museum is willing to alter the building in the name of art.

We did a show call the "Carston Holler Experience" (2011) where we put in a slide, and gave people a helmet to wear and a burlap sack. You would get in this stainless steel tube and go zooming through this floor down to the next floor.

BY: So, you cut through the structure?

SH: Yes, we had an x-ray machine to make sure we didn't cut through any electrical wires and for 3 months we had people sliding through.

We are really challenged with just the two elevators. It is a vertical Museum; we receive criticism due to the wait times at the elevators. Actually, when we put in that slide, my favourite review was in the New York Times that led off with a sentence like "The New Museum finally addresses its vertical transportation times"!

Often when they are taking down or installing new shows, the Exhibition department will stagger access to the floors, which is a challenge. There is an inability to completely segregate the return air airflow. This is challenging to work around.

BY: So dust travels to the other floors?

SH: Well, it travels back to the Air Handling unit, which requires extra filter changes and adds significantly to equipment wear. It is not the best design.

BY: Is this Power?

SH: We have power outlets strategically placed.

--- Shadow skirting



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Steve Harris
Facilities Director at The New Museum of Contemporary Art, New York

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So this is a nice little detail, the “reveal” at the ceiling/ wall intersection, it is a dust collector and a recess to hide electrical cabling.

The architects and curators really did not want any power outlets marring the look of the walls, the nearest outlet is (at the entry of the galleries) and we distribute power through the gap (shadow skirting).

--- The Green Lift Interiors

I am told that the elevator colour was conceived as a “palate cleanser” the bright colour would totally jar and refresh your mind for the next floor.

--- Photography exhibition “The Keeper” 2016

Each time we have a wall change we have to file (with the city authority). We have these public assembly permits from New York City. That allow a certain number of people- only. It is NYC code, such as the number of people who can safely exit in an amount of time.

If we change the wall layout, we must file with the city every time, which is obviously a cost. We use an architecture firm called Gensler, who were the executive architects with SANAA when this building was constructed. They prepare the drawings and help us file with the city.

In my area, we often deal with the different city agencies.

This is a return airshaft; we typically put a filter over this to collect demolition dust.

We blacken the skylight with black plastic.

BY: How many gallery floors are there?

SH: The 4th, 3rd and 2nd floor, and then there is the back of the ground floor, the Lobby Gallery. The 5th floor is also programmed and has become an important space for younger or emerging artists that have been in our residency program. We also have a great Theatre, let’s go down there.

--- Basement Theatre

We show video and media there, and hold public programs associated with the shows. It also is rented for corporate events. I believe that we have good acoustics in here; it is actually a rare, successful, multipurpose space. It has a sprung floor for dance performance. We’ve had all kinds of events, like drone flying and participatory dance programs.

The Museum prides itself on being inclusive and progressive. The proof is usually on display in what is being presented. I hope you enjoyed the tour!

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// **Brian Butterfield**
Architect / Senior exhibition designer at
Metropolitan Museum of Art.

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**Interviewed by Belqis Youssofzay. Email interview,
November 14, 2016.**

Brian is currently an Exhibition Design Manager at The Metropolitan Museum of Art where he oversees both the design of temporary gallery environments and advises on capital projects. Prior to the Met he was the Director of Exhibitions at The Yale School of Architecture where he taught several courses on furniture design and fabrication as well as architectural design studios at the graduate level. Previously, he worked for the award winning offices of Della Valle Bernheimer Architects and Alloy Development, both of Brooklyn New York, on a variety of projects, including two projects that won AIA NY honors.

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BY: From an exhibitions perspective, what are some of the significant changes/improvements carried out as part of the recent restoration of the existing building?

BB: The majority of the restoration project affected public areas, such as the Lobby and the Restaurant Level below. The most significant change from the standpoint of mounting exhibitions was to the mechanical systems, which make it to now keep more consistent temperature and humidity levels in the galleries. For the inaugural show “Unfinished” we had many loans of late renaissance to 19th century works with very stringent light level requirements so we actually installed window film on all the gallery floor windows including the large trapezoid window on Madison Avenue that cut down on UV/ Infrared/ and Visible light. Outside of those practical concerns related to a safe environment to display art, we also refinished all the floors, both the bluestone pavers on floors 3 and 4 and the wood parquet on the 2nd floor. The light system is still the original Edison Price track and fixtures from 1966, which we chose to preserve rather than replace. In terms of exhibition design, the space remains as flexible as Breuer intended but we have had to devise a new wall system. Breuer’s original wall system clipped into the unistrut track in each concrete coffer grid line but that system did not last more than 15 years (approximately). The Whitney Museum devised a number of wall attachment methods over their tenure in the building, and we have now devised our own system of metal brackets that hug the concrete grid profile and provide an anchor point below. It is more visible, but also less damaging to the concrete. It also allows us to anchor the top track of temporary exhibition walls anywhere we like in the space.

BY: How does a building designed in 1966 and its subsequent restoration respond to the logistics of showing modern art works. I.e. How are issues pertaining to artwork size, transport (Goods lift), conservation conditions, lighting control, circulation logistics etc resolved in the current building?

BB: The art lift, or service lift, was always intended by Breuer

to also be a public elevator and it is still used that way today. It is quite generous in size and is regularly serviced and still dependable. Logistically it is quite challenging to use that elevator for transporting art while open to the public as the only path of travel for art from the loading dock to the service elevator is through the lobby, or down the loading dock lift into the basement and then transferred to the main service elevator which still stops on public floors. This poses considerable complications in terms of scheduling installation and de-installation of exhibitions. We try to schedule as much art delivery as we can for Mondays when we are closed, or before 10AM and after 5:30 PM when we are also closed. For large shows with a high number of international loans this is often not possible and we have to make judgment calls on whether or not the art can be brought to the gallery floors in a way not too disruptive to our visitors. I think if Breuer had a chance to see how the building is used now, he would have designed a second service only lift that went to each gallery floor from the loading dock, and sacrificed some gallery square footage to do so.

BY: As an exhibition designer delivering the first two shows in the new building, ‘Unfinished’ and ‘Diane Arbus: in the beginning’ what were some of the challenges and opportunities that the building presented?

BB: Well, the building is an extraordinary place to exhibit art. The gallery floors are each different, and lend themselves to different types of spatial arrangements. This is by intent, the original home of the Whitney was a townhouse, so the smaller North galleries on floors 2 and 4 were meant to feel more domestic, same with the parquet flooring on the 2nd floor as opposed to the stone pavers. There is a softer quality to that space. The ceiling heights vary as well, from 12’-6” to 17’-9”, so you really have to consider what works you are putting on which floor. When trying to stick to a curatorial narrative that is chronological or thematic, it is sometimes hard to also place works by size with the appropriate ceiling height. A similar challenge is posed by the windows, in that light sensitive works (or sections of such works) need to be strategically placed

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// **Brian Butterfield**
Architect / Senior exhibition designer at
Metropolitan Museum of Art.

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away from the windows or have barriers constructed to block the light – which all has to be accounted for in the back and forth between the designers and the curators as the shape their vision in terms of exhibition sequence. It is a bit more of a Rubrics cube than most spaces I have worked with. The opportunity is really that those windows, and the infinite feel of the gridded space, as well as the materiality of the building become a part of the show, and if done right add a real sense of gravitas to the presentation.

BY: How imposing and didactic is the architecture of the building in defining the approach to the exhibition.

BB: In short very imposing, I sometimes use the word authoritarian. The grid allows great flexibility in terms of wall placement, but its presence is inescapable. Same goes for the windows and the floor finishes. It is certainly not a white box gallery and cannot be treated as a blank slate. When designing both *Unfinished* and the Diane Arbus show I actually looked to some of Breuer's original sketches from 1964. In the literature produced to solicit donors for the project he included some sample exhibition wall layouts, not for any show in particular but to show how flexible the space was. I was struck that though all the walls were at right angles, there were no exterior corners in any of his layouts. All the walls met at "T" intersections somewhat reminiscent of Mies's iconic Brick Country House diagram. He often showed a small gap between these intersections, so each wall was actually free standing. This is common now in many museums, including the modern wing at the Met 5th on 5th Avenue, but we made sure to adhere to that for *Unfinished* as a bit of an homage. It helps give the sense that the exhibition walls are sliding planes in an infinite grid rather than rooms which is consistent with so many of the Bauhaus trained architects designs. You can see this in Mies's Barcelona Pavilion and his National Gallery as well. I think for *Unfinished* the idea was to give the sense of rooms, but not in an axial sense, more suggestive, not contained sequential spaces. For Arbus, the approach was the opposite. We wanted zero sense of sequential spaces, no hierarchy, no prescribed path. I actually found a sketch of Breuer's in the Syracuse archives that showed a proposal for a fleet of walls all with the same orientation and arranged randomly in the space. It only showed about eight walls, not the 46 we had for Arbus, but the intent was clearly similar. I think the Arbus show took the flexibility of the grid to its extreme conclusion while still honoring its nature, the layout is truly gridded, and symmetrical, the randomness was achieved by offsetting each row so the positive and negative spaces were reversed, and then we removed every other wall on every other row to create the variation in density (and make it less claustrophobic). The window on 75th street and also the granite walls of the elevator banks as well as the curved concrete wall of the staircase entrance all serve as orientation markers, so you always kind of know where you are in space though not through any of the "new" walls or their orientation.

BY: The original building has a series of big windows that incrementally get bigger as one moves vertically through the building. Though they provided incredible vistas to the greater New York, how do you reconcile these with conservation standards of minimal light levels in certain exhibitions?

BB: You are right to recognize them as inherently problematic.

We are also working on a scrim attachment for them if we ever have works that need to be at 5 foot candles (lux in Australia) or lower. Personally, I prefer to find ways to not place those works by the windows, I think the architectural integrity of the space should be taken into consideration when organizing an exhibition, but often there are other factors that preclude that, and sometimes we will have to use scrims (currently the Paul Klee show on the 5th floor has a scrim over the window for this reason).

BY: How do you integrate your exhibition design with patrons moving between floors?

BB: We are still figuring that out. The preferred option is for people to take the elevator to the 4th floor and then take the stairs down. This is easy to do if there is a show that spans multiple floors and we can use way-finding signage to guide people. However with separate shows on each floor – it is hard to tell people they should start on 4, they want to go see whatever they came for first, but the building works that way too as long as you are willing to either take the steps up or wait for the elevators which were not designed to accommodate the number of visitors we get today so they are crowded often. We try and have a big graphic in the space off the elevators to orient people, as there are three entrance points really if you count both elevators and the stairway.

BY: As an exhibition designer, what are some of the overarching factors that affect your design approach?

BB: I always start with doing some research on the subject, and discussing the scholarship with the curators. I am not an art historian, but I do believe that context both intellectually and historically is important to good exhibition design. That doesn't mean literally, because you can't do that usually, but you can be aware of where these works were originally commissioned for, what type of space of client was it, where these works originally shown etc. You can make spatial configurations that lend an appropriate impact to one's experience of looking at art without the visitor really being aware of it and I think that is important. You can give a sense of importance to certain works without overly ornate indications. I like to think of my contribution being about 80% unseen, but impactful in ways that you don't notice as necessarily intentional. Sometimes of course the opposite is true, like in *Arbus*, where the design is the experience as much as the pictures. It's not just about seeing the photograph on the wall and understanding it as being part of a series or an artist's oeuvre, it's about how should you see the picture. In this case the hope was that the exhibition configuration actually replicate the chance encounter that *Arbus* had with her early subjects, the messy, crowded, but also magical cacophony of random encounters that is New York.

BY: The original building had a strong sense of materiality (terrazzo, bush-hammered concrete, blue-stone floors and the grey granite façade). How do you respond to such a strong materiality when designing an exhibition?

BB: You embrace it, you can't fight it. Breuer had all white sheetrock walls for the gallery spaces, but used concrete and granite for the South Elevator and Stairwell walls, this to me was his way of marking the transition between public circulation or amenity space, and the space for art. Similar to how the moat and the bridge at the main entrance dramatically

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// **Brian Butterfield**
Architect / Senior exhibition designer at
Metropolitan Museum of Art.

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separate the city from the museum, this material switch indicates a transition, a threshold, a new space for a new experience. It actually allows the exhibition designer much more freedom because the zone we get to play with has in a way been turned over to us by Breuer, we don't have to worry about the rest of the building, the gallery space was intended to be an experimental zone. That being said we did darken the parquet floor significantly so the color was less distracting. We also re-waxed all the floors so the sheen is a nice balance between highlighting the material and not being too distracting.

BY: What sustainable policies are implemented at the MET for exhibition design and what are the cost implications of these sustainable policies?

BB: This is a discussion we are just starting to have at the Met, and have some work to do on. I would be very curious to know what other museums are finding they can realistically do in this regard.

BY: Do you have to work with certain building materials and re-use?

BB: We do, we have a list of materials approved for certain uses and we have to stick to that. Any new material has to go through rigorous testing with our department of scientific research. We reuse as much as we can to save money, but sometimes those efforts have marginal returns in terms of cost.

BY: Are there a suite of showcases that you work with or do you design new cases for each show?

We do, and we also make new ones regularly, it's a show by show determination on how much new case work we can afford and if it is needed.

BY: Do you outsource all joinery and walls and do you have an in-house workshop that delivers the walls and joinery?

BB: At the 5th avenue building we have in-house shops that do a significant amount of our construction there, however the Breuer does not have space for in-house facilities so all Breuer shows have everything made either offsite or by external vendors.

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What lessons are there?

- Building Typology
- Exhibition Spaces
- Infrastructure
- Ancillary spaces

The collection and a curatorial narrative guide the pace and experience of an art museum. As museums engage with new modes of art practice and stage large-scale installations or site-specific installations within galleries, bigger more flexible and adaptable spaces are demanded from institutions that stage contemporary works of art.

The architecture of new galleries/museums is expected to provide spaces that can be adapted to suite the tone and narrative of an exhibition on display and provide opportunities to be zoned into smaller or more intimate spaces.

Large scale installations are contingent on architectural conditions and its associated structure, loading capacity, opportunities for suspension or fixing (into the structure), and other services (lighting, power, data, lighting).

Presented in this section are some of the lessons, both broad and specific, provided by the 18 institutions featured.

Building Typology

Though each of the gallery / museum in this report is presented under the type of art content and collection they are built for, key building typologies emerge that represent interesting urban design propositions for their site and surrounding context.

Approaching the visited museums from an urban design and typological point of view, the galleries and museums featured in this report fall into the following distinct categories:

• The Art Tower -

- Switch House (London, UK)
- Kolumba Museum (Cologne, Germany)
- New Museum (New York, USA)
- Whitney Museum of American Art (New York, USA)
- Met Breuer (New York, USA)

This approach is typical for small, restricted sites in built urban contexts. As a consequence, the experience of art is established through strategic vertical planning and modulation of volumes. New museums such as the Switch House (London), Kolumba Museum (Cologne), New Museum (New York), Whitney Museum of American Art (New York) and older museums such as Met Breuer (New York) provide interesting examples for this building typology.

Vertical circulation:

Restricted urban sites provide interesting strategies towards vertical planning and circulation for both art transport and visitors. The museums mentioned above present different approaches to vertical circulation to varying results.

Switch House presents the most successful example of vertical circulation. Here, the circulation spaces, serving 10 storeys, also double as generous breakout zones for the visitors between floors. Ample seating, daylight and views of the city make for a compelling journey up through the galleries. Multiple lifts (passenger and service) ease the congestion on the circulation path. A separate service lift is provided for art transport.

Entry point(s):

Entry becomes an important consideration for these vertical museums. The typically dense urban siting

dictates the need for an obvious point of entry at street level. With some there are multiple entries, such as the Switch House, but for most of the cited examples there are only single points of entry. The design of the street entrance and lobby becomes a key consideration, as does wayfinding and navigation from these points.

Facade:

The structural and material treatment of the facade plays a pivotal role in establishing an urban presence of each museum mentioned, though strategies differ.

At the Switch House, the facade is a lattice of bricks over a concrete substructure. The exterior honours the cladding and facade of the existing Turbine Hall to which it is connected. The brick mesh brings indirect daylight to the interior spaces. A similar approach can be observed at Kolumba Museum, where the warm grey brick, built upon the perimeter of a ruined Romaneque church, materially link to the church stone and neighbouring buildings, but also allow for dappled light to enter the basement volume where the ruins are sheltered.

The white-mesh facade of the New Museum presents a porous skin and attempts to dissolve the heavy the heaviness of the stacked volumes. Internally, this facade disappears as inner walls of concrete and timber line the interior spaces.

The grey slate facade of the Met Breuer materially distinguishes it from its neighbouring buildings whilst providing a more formal and monumental front to the city. The facade treatment is similar in the Whitney Museum of American Art, albeit with a different cladding material of blue-grey steel. Both museums present a solid front to the city with moments of porosity and openness at street level or via the insertion of upper level windows.

Windows:

Windows play a critical role in the art tower building typology because with most of these sites lack opportunities to incorporate outdoor areas. Windows provide key portals to the city and landscape beyond. The inclusion of big floor to ceiling windows in almost all of these institutions (with the exception of New Museum) brings daylight into the space and frame key vistas within the cityscape. As a consequence they make for an interesting gallery experience where one is constantly reminded of the greater urban context.

The placement of windows adjacent to, or within exhibition spaces, work for most of these museums because they are all venues for the exhibiting contemporary works of art (with the exception of Kolumba) and daylight control is not as critical to these space as galleries of exhibiting light sensitive historical works.

• Art in the landscape

- Louisiana Museum of Modern Art (Humblebaek, Denmark)
- Teshima Museum of Art (Naoshima, Japan)
- Chichu Museum of Art (Naoshima, Japan)
- D. T Suzuki Museum (Kanazawa, Japan)

A new typology of art gallery and museum is emerging where the visitor experience of landscape is paramount to the experience of the art and architecture. All other museums in this list were built in the last 15 years, with the single exception of Louisiana Museum of Modern Art, which was built in the late 1950s with continued restoration and additions to present day.

Horizontal planning:

Volume, scale and planning for such type of a museum is contingent on the conditions of the site. Typical to this typology is a siting away from urban centres, and a connection to natural surrounds. The planning of interior spaces, for both exhibition and other ancillary functions, work with the topography, natural features and boundaries of the site.

Louisiana Museum of Modern Art presents a compelling case for planning across pavilions linked through a sequence of corridors and break-out spaces, each a successive addition built over many decades. They journeying experience of the visitor adds to the appreciation of art within a changing architecture, constantly in reference to the landscape and views beyond.

A similar approach is taken at the Chichu Museum of Art and D. T. Suzuki Museum, where the pavilions are connected through a series of corridors and transition spaces that connect the visitors back to the greater landscape. In Chichu Museum of Art, the topography of Naoshima Island greatly informs the siting of part buried pavilions. Embedded into the steep hillside facing the ocean, the pavilions are splayed across both the X and Y axis and connected through a network of open to air courtyards and framed views.

Teshima Museum of Art, houses a singular artwork and is an undulating concrete canopy that hovers above the landscape of surrounding rice fields. Its slight curving form mimics the curvature of the surrounding hills. The two punctured circular apertures, open to air, bring in daylight and the elements. This is an art space with an internal and external spatial condition and experience entirely informed by the landscape in which it is sited.

Framing strategies:

Even the art spaces in these galleries are contingent on the conditions of the landscape. In Chichu Museum of Art, for example, all three art spaces have carefully controlled sunlight entering the art spaces. In the Monet

Room of the museum, daylight conditions outside alters the ambience of the all-white room. A floating ceiling shields the space from direct sunlight, rather diffusing the light very carefully. As a result the experience of the art alters with changing times of the day and seasons.

In Teshima, treetops are framed by the two circular apertures. Natural elements (breeze, rain, light) enter the space through these openings. The changing light conditions throughout the day and various seasons directly affect the ambience of the interior space.

In D. T. Suzuki each space has a framed view of the lush gardens that surrounds the museum complex. In moving through the museum and its spaces, the visitor is constantly connected to the external environment surround the enclosed spaces.

Similarly in the Louisiana Museum of Modern Art, all art (with the exception of a few underground spaces) is framed by the greater landscape beyond. The visitor is constantly reminded of the greater landscape through the framing of key vistas through glass-enclosed walkways, small and large windows, highlight windows and openings. This effect is best illustrated in the famous Giacometti room where the slender figures of Giacometti stand motionless against the view to Humlebæk Lake and its lush surrounds. Landscape design, planning and framing strategies are key aspects of this museum that make this a unique experience where the art is extended into the greater landscape, and the greater landscape becomes part of the experience of the art.

Landscape design:

Landscape design has been carefully considered and implemented in the planning and experience of art. Both hard and soft landscaping strategies create a buffer between the internal gallery spaces and the city and create opportunities for outdoor communal areas. These spaces also offer spatial opportunities for displaying outdoor sculptures, and in turn frame the architecture sited within. Entry to Teshima Museum of Art, for example, is via meandering pathway, first through a meadow, then around the crest of an adjacent hill, offering vistas of the Seto Inland Sea before arriving at the pavilion entry. This is a design strategy developed by the architect and landscape designer to create a sense of entry into the art space. Along the way, seating opportunities creates moments of pause.

In Louisiana Museum of Modern Art, the corridors and pathways connecting the pavilions meander carefully around existing mature trees whilst green lawns with small gardens and more sculpture provide areas for visitors to sit and enjoy the outdoor sculpture garden. Each outdoor space in this complex provides an opportunity to connect with the museum's collection of outdoor sculptures.

• Art gallery as an urban park

- 21st Century Museum of Contemporary art Kanazawa (Kanazawa, Japan)
- Louvre Lens (Lens, France)

Central to this typology is a unique urban design proposition.

The interior condition of 21st Century Museum of Contemporary Art and Louvre Lens, both designed by architects SANAA, are seen as an extension of the city. Movement through each building and the occupation of the building is compared to the experience of a public park by SANAA.

Horizontal movement:

Horizontal movement across the complex captures the visitor movement across the site. This is certainly the case for 21st Century Museum of Contemporary Art, Kanazawa where the network of corridors surrounding the exhibition volumes are akin to city street and the multiple entry points into the complex are located across key avenues surrounding the museum.

The building forms of Louvre Lens are situated diagonally and in opposite orientation to a pedestrian path that crosses the parklands setting. To cross the park, a walker may enter and exit the glazed central lobby pavilion freely without entering a ticketed section of the museum.

Multiple entry points:

Both museums provide a porous and accessible edge to the city. Multiple small -scale and discreet entry points into the buildings establish a non-hierarchical experience of the building.

Material transparency:

Glass facades and modulations of openings within the building envelope allow for views into the building and frame the activities within creating a porous and welcoming edge to the greater city. Glass walls are used to separate functions within the building. Unencumbered sightlines between various spaces achieve a sense of openness similar to an open public park.

• The adapted gallery

- Neues Museum (Berlin, Germany)
- Rijksmuseum (Amsterdam, The Netherlands)
- Storefront for Art and Architecture (New York, USA)
- SCAL: the Bathhouse (Tokyo, Japan)
- Palais de Tokyo (Paris, France)

The emergence of the adaptive re-use of existing spaces into new working galleries is quite prevalent the world over. With the exception of Neues Museum and Rijksmuseum, both of which were functional galleries, most other buildings falling into this typology

see the conversion of buildings that were originally built for different functions. Adapting these spaces into functioning gallery spaces and complying with international standards for environmental control requires substantial structural, infrastructural and circulation upgrade.

Structural upgrade:

Structural upgrades often entail either major or minor structural upgrade to the primary structure of the building such as columns, beams and walls. For example, in the restoration of Neues Museum, columns and walls were re-instated and in some parts rebuilt entirely due to the destruction of the building in WWII. In the example of Palais de Tokyo, the secondary structures (partition walls, ceilings and other supports) have been stripped to reveal the primary structure with some minor work carried out to ensure structural stability and integrity.

Services infrastructure upgrade:

The key upgrade to this typology of galleries is the services infrastructure upgrade that encompasses upgrade to power, lighting, data, environmental control (lighting, A/C and humidity). This often poses a challenge for buildings not designed to function as gallery spaces and where the presence of services is expected to be as unobtrusive as possible. Design strategies of introducing architectural features that help conceal the introduced services are evident in buildings like the Neues Museum and Rijksmuseum. In Neues, for example, the newly introduced ceiling structure allows for recessed lighting tracks whereas in Rijksmuseum, a suspended ceiling tracks structure that is materially and aesthetically consistent with the rest of the display furniture hovers above the displays. In Palais de Tokyo, the approach is bold and obvious where all existing services and all new services are on display. A network of cable trays, wirings, power points and lighting tracks is in on display along with the art. A similar approach is evident in the smaller adapted spaces of SCAI and Storefront for Art and Architecture.

Circulation upgrade:

Planning of the circulation in the adapted gallery model is one of the key design strategies to ensure an easy transition between exhibition spaces and other zones. Circulation paths in these spaces are also contingent on the regulations of each country dictating fire egress and exit paths out of the gallery. Re-thinking of the circulation zones in the adapted gallery model affects the floor area as new lift cores and wider stairs / pathways have to be accommodated within the existing floor plate.

Exhibition Spaces

Temporary exhibition spaces

Temporary exhibition spaces are reserved for changing displays and work on the principle of large floor plates that can be configured to allow for partitioning of the exhibition spaces in a myriad of ways. Planning and zoning for each new exhibition is contingent on the following architectural elements:

Floor space:

Proportions of the floor space direct the partitioning of the entire floor space into smaller, contained zones guided by a curatorial narrative. Often if the floor plate is narrow, the partitioning of the space is achieved through linear division of the space. In temporary exhibition spaces floor plates have in-built provision for power and data and the sometimes the possibility to drill into the floor for structural anchoring.

The idea of a 'flexible' gallery floor is contingent on proportions. In Whitney Museum of American Art, for example, the open floor plate of the galleries, provide only one type of wall configuration due to the proportion of the galleries (narrow width and long with high ceilings). This results in a linear configuration of walls. Similarly, the high ceilings of 21st Century Museum of Contemporary Art in Kanazawa proportionally do not lend themselves to be zoned into smaller spaces. In Met Breuer the proportions of the floor space to ceiling height lend themselves better for smaller zoning of the floor space.

Walls:

Temporary wall from stud walls and plasterboard finish are often used to reconfigure the gallery space into zones. If the walls can be fixed to either floor or ceiling the wall will need to be deeper (450mm for a 3500mm high ceiling) to stabilise them in space. For high -ceilinged spaces this results in much thicker and shorter walls that take up valuable space and create an architectural inconsistency where the temporary walls read as separate to the primary building elements. This creates an issue for lighting the space if the lighting track is located in the ceiling. Smaller walls either block direct lighting or create shadows along adjacent walls. If the lighting track is located in the ceiling then lighting of the lower walls becomes an issue due to distance.

Ceilings:

The ceiling structure needs to allow for rigging and taking heavy load for suspension of art works or fixing of walls into the ceiling. A temporary exhibition space benefits from a gridded ceiling or ceiling structure placed at regular intervals. This requirement is illustrated well in Met Breuer, New Museum, Whitney Museum of American Art, Switch House, Louisiana Museum of

Modern Art and 21st Century Museum of Contemporary Art Kanazawa where both concealed and expressed structural elements allow regular rigging points for art work and any additional lighting infrastructure to be suspended. The installation of lighting track often follows the structural logic of the ceiling.

Ceiling heights:

Exhibition spaces, whether temporary or permanent need to cater to demands for staging of large contemporary works of art. Traditionally gallery ceilings have ranged from 3.5m to 5m but the following galleries provide a range of high-ceilinged spaces to cater for both contemporary art and provide a better visitor experience for all types of art.

Examples of high ceilings can be seen in:
Kanazawa (14m max internal height)
Whitney (4.7m and 5.3m)
Met Breuer (4.7m and 5.3m)
Louvre Lens (5.5m - 6m)

The 'column-free' gallery:

The exhibition spaces are expected to provide a large interrupted floor space for the staging of the contemporary works of art and for this it is necessary for the exhibition spaces to be column free. Column-free galleries not only provide uninterrupted floor plates but also provide direct sightlines across the space. Architects often work very closely with structural engineers to shift the load-bearing structures to the periphery of the exhibition space.

Almost all galleries presented in this report (with the exception of Neues Museum, Gallery of Horyuji Treasures and 21_21 Design Sight) provide examples of 'column-less' exhibition spaces.

Accessible services:

A program of changing exhibitions places demand on the flexibility of services (power, lighting data) in temporary exhibition spaces and each institution provides a different example of flexible services managed through floor, walls or ceilings.

Multimedia spaces:

The general finding was that there are no dedicated multimedia spaces in most museums visited. Instead a temporary exhibition space is converted into a multimedia box with acoustic treatment and light control on exhibition-by-exhibition basis.

Permanent exhibition spaces:

The permanent gallery spaces are not reliant on structural flexibility as the temporary spaces but other design considerations affect the display of art and the experience of the spaces.

Sightlines:

For most institutions sightlines between galleries and from other spaces into the galleries is an essential part of framing a curatorial set-up. Sightlines can help establish zones for the display of title-walls/ didactics and or a highlight work to draw the visitor within the spaces.

Spatial hierarchy:

A set of differently proportioned spaces dictated by a curatorial narrative and scale of content with a defined circulation path can help reinforce the thematic narrative of the exhibition in permanent exhibition spaces.

Architecture as a receptacle:

The architecture, it's structure, materiality and lighting strategies in an exhibition space is required to have a quiet presence and recede into the background. Materiality and structure needs to perform its role but not be too loud for the art in the space. This approach is illustrated well in most of the galleries and museums featured in this report. The SANAA designed museums are best examples of such an approach. The 21st Century Museum of Contemporary Art, Kanazawa, Louvre Lens and New Museum have a consistent palette of materials, recurring and repetition of architectural elements (louvers, beams, location of columns, internal cladding and paint finishes) that ensures that the content on display is the most pronounced element in the space.

Consistency of look and feel:

A consistency of look and feel achieved through materiality, lighting, joinery, showcases and furniture ensures that gallery spaces read as a singular entity.

Infrastructure

Most contemporary art institutions work with an international environmental standards for the display of works. These institutions stipulate similar standards for institutions loaning their works. As a consequence most contemporary institutions should be achieve the following environmental controls at all times:

- Temperature at 20 degree Celsius
- Minimum light levels at 50 lux or less.
- Relative humidity at +/- 50 %

The above environmental conditions are not applicable to all museums and galleries but most of contemporary art spaces are required to achieve the minimum required level of environmental control. For exhibition spaces displaying artefacts that are historic and fragile such as works on paper or other organic materials, the above environmental conditions are the minimum requirement. A lux level of 50 is the minimum requirements with some artefacts requiring an even lower lux level. Additionally dust control is another key factor in the design of the

exhibition spaces. Though the exhibition spaces are isolated architecturally to minimise dust from the outside whereas the more sensitive artefacts are contained within showcase environments.

Lighting control:

Lighting control is becoming an essential tool for conservation of artworks and they provide significant energy savings. In most contemporary institutions lighting is controlled via an external software which means many lights can be remotely controlled. Smart lighting control allows for dimming, remote switching and remote scheduling. This form of lighting control eases the servicing requirements within the exhibition spaces.

For most museums visited that were either new or adapted lighting control was provided by LED luminaires on lighting track infrastructure with most of the lighting control achieved through Digitally Addressable Lighting Interface (DALI) system. The light tracks were either expressed or concealed within the architecture.

Daylight control is managed through the primary structure of the architecture (ceiling design, wall location and heights, window placement materials) and through secondary measures (blinds, temporary walls and colour treatment). Daylight control has to be considered at the very outset to work with any circumstance of lighting requirements needed within an exhibition space.

For Tate Modern Switch House for example, Arup engineers provided a lighting installation that used at least 20% less energy than a typical gallery and that helped the building to achieve its sustainability targets. Arup implemented low energy fluorescent and LED lighting throughout, including LED spotlights for the gallery spaces that use less than half the energy of traditional halogen spots, without compromising on the quality of light for the art. Each institution provides a different example in their lighting strategy and lighting track location.

For galleries staging contemporary works of art, lighting tracks often following the logic of the ceiling structure (often a grid) and provide a lighting layout strategy. For art galleries that have been adapted and have to work with the existing ceiling, a suspended lighting track provides a flexible solution for lighting the works.

Services:

Lighting, power, data, security and A/C provisions are expected to be integrated into exhibition spaces. Innovative design solutions in most museums allow for these services to be seamlessly integrated into the interior of the spaces. In the 21st Century Museum of Contemporary Art, Kanazawa and New Museum, New York, a recess around the perimeter of the concrete slab

allows provision for power and data.

In the restoration of Neues Museum and Rijksmuseum, the upgrade to power and data is seamlessly integrated into the walls (Rijksmuseum) or integrated into the flooring (Neues Museum) but concealed with circular bronze cover plates to match the terrazzo flooring.

Structure:

As artworks are getting bigger in scale and complex in construction and installation (particularly large site-specific sculptures and installation), both the ceiling and flooring has to withstand large loads.

Whether the structural logic of the space is revealed or concealed plays a huge part in the presentation of the art / content. For most institutions exhibiting contemporary works of art, the expression of the structure is often complimentary to the content. This is the case for Switch House (white painted beams and services add to the spatial ambience) and Palais de Tokyo. For institutions showing historic content, the expression of structure could be an aesthetic hindrance especially in cases where the content is small in an otherwise large space. The exposed structure in such an instance would distract from the viewing of the content.

Additionally, the ceiling structure and the possibility to anchor works, insert light-fittings and other services have been beneficial. If the ceiling structure is concealed behind cladding then after every show the ceiling has to be made good whereas more flexibility is achieved through expressed services.

Showcases:

Showcases freestanding and integrated provide secondary environments to ensure artefact(s) are secured in a dust-free, environmentally controlled but visually accessible spaces. While showcases are designed to perform differently for different spaces and artefacts, the general performance is guided by object security and environmental control.

Freestanding showcases within a gallery space rely on the general environmental control of the exhibition space such as the freestanding showcases in the Horyuji Treasures Museum and Neues Museum and the glass-top of these cases make them reliant on the lighting design of the spaces. In other instances such as the integrated showcases of the Horyuji Treasures Museum the perimeter cases have their own integrated lighting. Most showcase glass is now low-iron glass to reduce the green colouration that forms on the surface of glass over prolonged periods.

Ancillary spaces

Most contemporary museums have increased the role

of ancillary functions additional to the display of art. These spaces include outdoor terraces, function spaces, a theatres and auditoria etc. These spaces also support the exhibitions to provide children's activities, special guided tours, and artist run workshops etc.

Theatre:

A theatre/ auditorium can be found in most large-scale institutions to provide opportunities for workshops, lectures, artist talks or screenings related to the exhibition. The size and capacity of such a space varies for each institution. In Louisiana Museum of Modern Art, this space is designed to perform acoustically for the classical music concerts and provides view over the Oresund Sound and ample daylight filling the space. The New Museum provides a compact theatre located in the basement with foldable chairs that allow the area to be re-configured in different ways.

Breakout / Vestibule spaces:

These spaces adjoin the central exhibition spaces and serve the functional purpose of modulating visitor movement and managing large visitor groups, but also act as zones from which sight-lines into the art spaces can be established. This strategy is used in galleries such as Rijksmuseum, Chichu Art Museum and Louisiana Museum of Modern Art.

These spaces afford visitors the opportunity for a break between exhibitions. In Switch House these are zones where visitors rest on their journey up the building. Niches within windows provide seating and a chance to gaze at the city beyond.

These zones can be also house ancillary functions supporting an exhibition, such as a children's activity zone, a multimedia space or a rest space with temporary seating.

Storage:

For most institutions, front of house storage is a considerable constraint. Front entry is typically cluttered with coat-check items deposited by visitors. Good examples of front of house storage include Neues Museum, Rijksmuseum, Switch House, Met Breuer, New Museum, and Louvre Lens. Here, front of house facilities are designed to accommodate large storage areas out of view.

On-site storage of art and other items such as furniture is a challenge for most institutions. It has become standard practice to store art remotely in dedicated off-site facilities, with on-site spatial allowances made for delivery/loading of artworks and processing as part of conservation assessment.

Bookshop:

Bookshops are a key feature of most institutions both functionally and financially. Whilst not all institutions

rely on bookshop for revenue generation, they rely on them as a way to engage the public. The bookshop is often always integrated in the entrance lobby. The content of the shop and the size of the entrance often guides the location and size of the shop. SANAA often place the shop floating as a freestanding zone with a mesh screen wall as illustrated in 21st Century Museum of Contemporary Art and New Museum. In Louvre Lens the shop was approached with a similar principle but will clear glass walls and freestanding furniture. More established institutions such as the Rijksmuseum, Louisiana Museum of Modern Art, Neues Museum and Switch House provide large dedicated areas reserved for bookshops with specially designed furniture, bookstands and carousels designed to be consistent with the rest of the museum furniture.

Art transport:

Goods Lift

As the art works get bigger in scale and more complex to install, the role of art transport becomes critical in most institutions. Where floor space restrictions apply, the goods lift in some instances is programmed to also perform as a passenger lift. This means stopping regularly on all floors. The transport of art in these instances is scheduled to happen either before-hours or after-hours. This presents a problematic scenario for most institutions with a program of changing exhibitions.

Examples of goods lifts across different institutions:

- Louvre Lens has a goods lift that opens into each gallery wing (6m x 5m) and is connected to underground loading dock and conservation labs.
 - Kanazawa has a big goods lift that opens in the public corridor and has a similar white box treatment as the exhibition spaces.
 - Switch House (7m x 4m)
 - New Museum (3.6m H x 3.35m L x 2.4 D)
 - due to tight floor space passenger lift and goods lift shared and is not ideal. (3.6m H x 3.35m L x 2.4 D).
- Delivery of artworks have to take place before -hours or after-hours
- Met Breuer: Goods lift and passenger lift are shared so delivery of art has to occur before or after-hours.

Loading Dock

The location, street presence, street access, internal connectivity to the buildings and environmental control are some of the key concerns relating to loading dock locations. All 18 art galleries offer different examples for the location and size of the loading dock within an art gallery complex.

- Switch House (Tate Modern) - loading dock has street access from the main road but visible from cafe across the plaza and galleries above. Separated from the plaza

via a roller door. Trucks and other deliveries park in open carpark across cafe and entrance/ exit plaza

- Louvre Lens and 21st Century Museum of Contemporary Art - both these institutions have underground loading docks accessible from main roads and hidden from visitor view.

- New Museum - loading dock entry adjacent to the visitor entry. Access is available from main road and small trucks can reverse into the dock via glass doors.

- Louisiana Museum of Modern Art - Loading dock located under the site plateau and accessible via small road.

- Met Breuer - Loading dock located on side of the building and accessible from side street via automatic roller doors.

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Jesper Lund Madsen (Louisiana Museum of Modern Art, Denmark)
Brian Butterfield (The Metropolitan Museum of Art, New York)

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About the author

Belqis Youssofzay

Belqis is a graduate of architecture from the University of New South Wales. In the years following graduation, she was involved with a number of key cultural & public projects, notably the redevelopment of Sydney's Museum of Contemporary Art.

With an interest in art and culture, Belqis has developed a portfolio of cultural projects completed over the last 9 years including gallery redevelopments, exhibition design, specialist design consultancy for galleries and museums, as well as interpretive master-planning for large cultural sites and institutions including:

Sydney Opera House
State Library of New South Wales
Reserve Bank of Australia
Queensland Museum South Bank
National Parks and Wildlife
Art Gallery of New South Wales

Currently she works as an in-house designer for the Art Gallery of NSW where she collaborates with a team of curators, conservators, engineers and other specialist consultants to present one of Australia's largest collection of art to the public.

She continues to document her interest in the architecture of art gallery and museum design on her Instagram account @architectureforart and hopes to continue expanding on this area of research.

 @architectureforart



APPENDIX

- Area plans and technical data sheets

Please note that the sqm area provided for each institution is an approximate figure derived from re-drawing the zones in each gallery from an existing pdf plan.

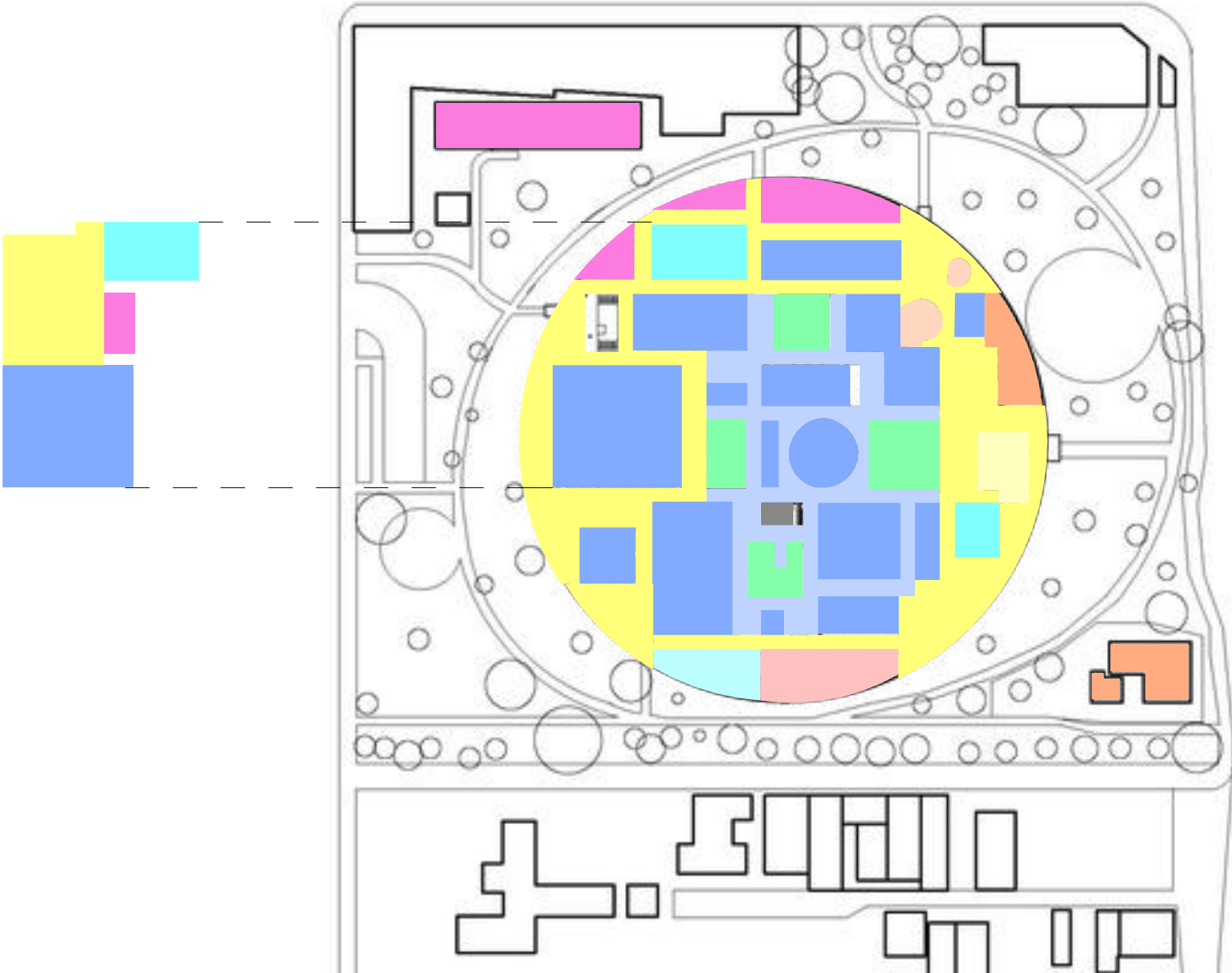


TECHNICAL DATA SHEET

BUILDING	21st Century Museum of Contemporary Art	
LOCATION	Kanazawa, Japan	
ARCHITECT	SANAA	
FLOOR AREA	27,920 sqm	Exhibition Area: 17,069 sqm (indoor & outdoor)
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	245 sqm Information, 190 sqm ticketing (including queue) at opposite ends of building, open-plan served by small central desk.
	CAFÉ	150 sqm internal to building near ticketing. 255sqm external to building in existing building within park.
	SHOP	125 sqm
	LIBRARY	174 sqm
	THEATRE	740 sqm, 3 theatres, 1 zoned for staff use.
	CHILDREN & MATERNITY	360 sqm
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	380 sqm in-situ works within floor plan - James Turrell, Leandro Erlich, Anish Kapoor. Additional free standing sculptures external to building.
	ROTATING EXHIBITION SPACES	4600 sqm
	ROOM HEIGHTS (MIN, MAX)	Corridors and public areas = 4m, Galleries vary from 6 to 12m
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	Glass ceiling grid acts as diffuser to lighting fixed above, lighting fixed below or suspended through.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Supply air to galleries to glass perimeter through skirting, return air via corridors and large wall intake grilles. Unique lighting assembly to each gallery via ceiling system.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Painted steel plate to corridors and breakout. Accessible suspended ceiling structure with adjustable frosted glass panels.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Concrete, negative or rebate in floor in lieu of skirtings for electrical provision and running of cables. Contains removable grill for access to power outlets and AC supply air.
	ADAPTABILITY	Painted steel plate walls to corridors and breakout. MDF or plaster over plywood to galleries.
BREAKOUT ZONES	AREA (SQM)	Operable wall sections for large artworks, folding glass partitions can open/close corridors to aggregate gallery rooms together in unique formats.
	FURNITURE (INTEGRATED OR MOBILE)	Operable/block-out daylighting openings through roof, diffuse daylight will enter through suspended glass ceilings.
OUTDOOR SPACE	AREA (SQM)	5740 sqm Interstitial / circulation corridors and break-out. 4235 sqm perimeter public zone + 1505 sqm central exhibition zone.
	AND ANY KEY STRATEGIES	Mix of SANAA designed furniture and long immobile timber benches.
ADMINISTRATIVE	AREA (SQM) AND ANY KEY STRATEGIES	760 sqm Interior courtyards, situated within public park complex.
STORAGE	OFFICES	610 sqm External existing building, 600 sqm Internal to building
	PARKING	Vehicular ramp to basement
LOADING	FRONT OF HOUSE	Not evident
	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	Basement, extent unknown
	GOODS LIFT	Vehicular ramp to basement
		Very large, 40 sqm to outside of shaft. From basement to center of gallery zone.

DATA SHEET MEASURED AREAS
21st Century

GALLERIES	FRONT OF HOUSE
BREAK-OUT	RECEPTION & TICKETING
OFFICE	CAFE
LANDSCAPE	SHOP
GOODS LIFT	KIDS SPACE
STORAGE	THEATRE
LOADING	LIBRARY

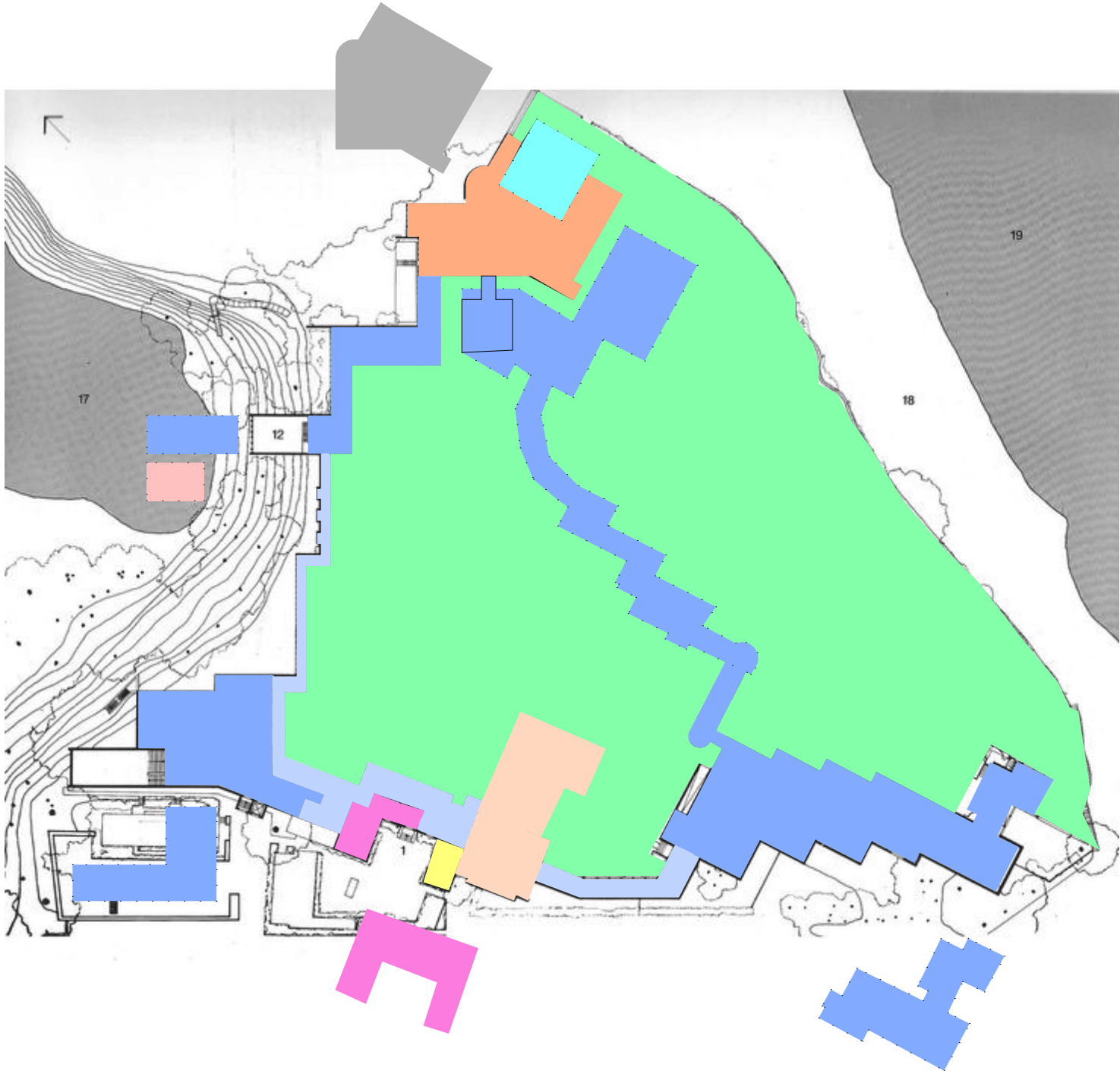


TECHNICAL DATA SHEET

BUILDING	Louisiana Museum of Modern Art, Denmark	
LOCATION	Krogerup, Denmark	
ARCHITECT	Jørgen Bo and Wilhlem Wohlert	
FLOOR AREA	9525sqm approx. excl garden	
FRONT OF HOUSE	TICKETING	60 sqm, investigating automated ticketing with online/remote purchase.
	RESTAURANT / RECEPTION	865 sqm, connects to open plan theatre external terracing facing ocean.
	SHOP	690 sqm, shop acts as entry and exit point
	LIBRARY	N/A
	THEATRE	265 sqm, forms part of reception area. Open plan.
	CHILDREN & MATERNITY	105 sqm indoor children's learning centre. Direct connection to outdoors including garden, outdoor learning terrace & play equipment (slide)
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	1100 sqm Permanent collection on rotating hang/install, permanent sculptures located in landscape
	ROTATING EXHIBITION SPACES	4360 sqm
	ROOM HEIGHTS (MIN, MAX)	3m - 7m approx
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED)	Stretched fabric suspended tiles - in part
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Dimmable lighting, Climate control.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Set plaster, Stretched fabric suspended tiles - in part, suspended tracks.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Brick, Tiles
	ADAPTABILITY	Brick, Plaster over plywood.
	DAYLIGHT CONTROL STRATEGIES	Poor built-in adaptability. Temporary walls constructed for individual shows. Onsite electrician employed for unique power provision to each show.
		Bespoke solutions to each exhibition - Block-out fabrics & UV glazing films
BREAKOUT ZONES	AREA (SQM)	735 sqm extended corridors linking different wings through landscape
	FURNITURE (INTEGRATED OR MOBILE)	All mobile
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	15880sqm enclosed garden with access to waterfront. Patrons free to wander through site, exit and enter galleries at many points. Picnics, swimming etc. all permitted.
ADMINISTRATIVE	OFFICES	525 sqm converted original building. Additional offices located adjacent to site in small individual buildings.
	PARKING	Event style parking in a number of adjacent locations.
STORAGE	FRONT OF HOUSE	Nominal.
	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	See below.
LOADING	DOCK	820 sqm loading and workshop areas with limited storage. 2 offsite warehouse locations for storage.
	GOODS LIFT	No, scaffolding and mobile equipment used for each show.

DATA SHEET MEASURED AREAS
LOUISIANA

GALLERIES	FRONT OF HOUSE
BREAK-OUT	RECEPTION & TICKETING
OFFICE	CAFE
LANDSCAPE	SHOP
GOODS LIFT	KIDS SPACE
STORAGE	THEATRE
LOADING	LIBRARY

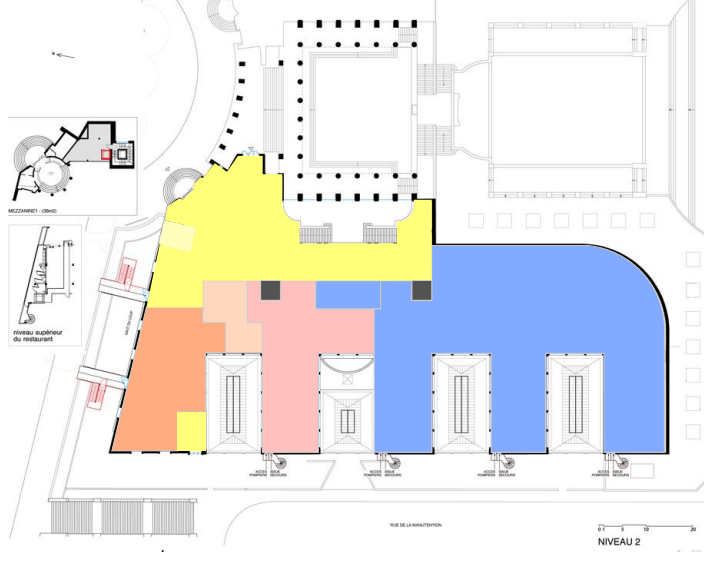
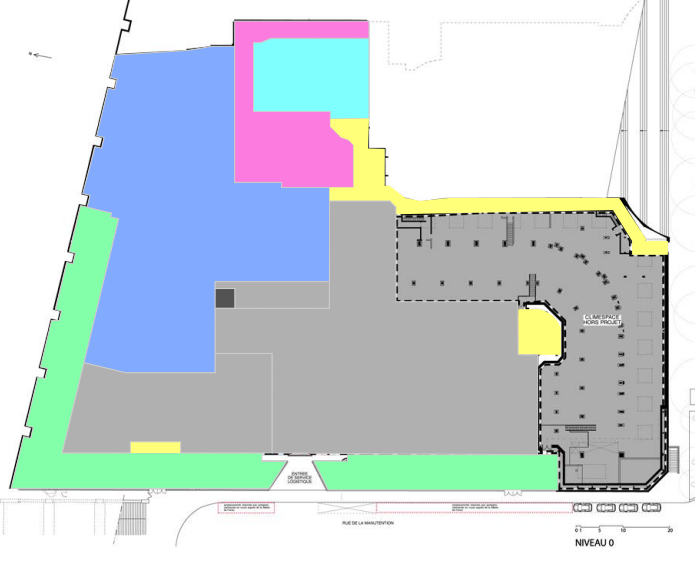
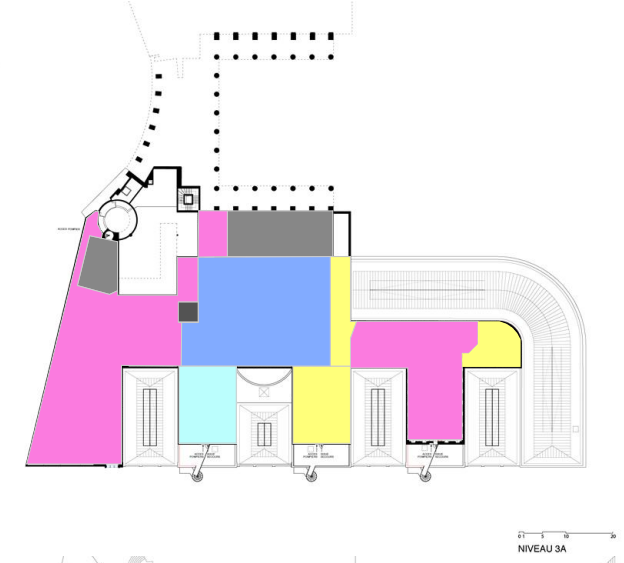
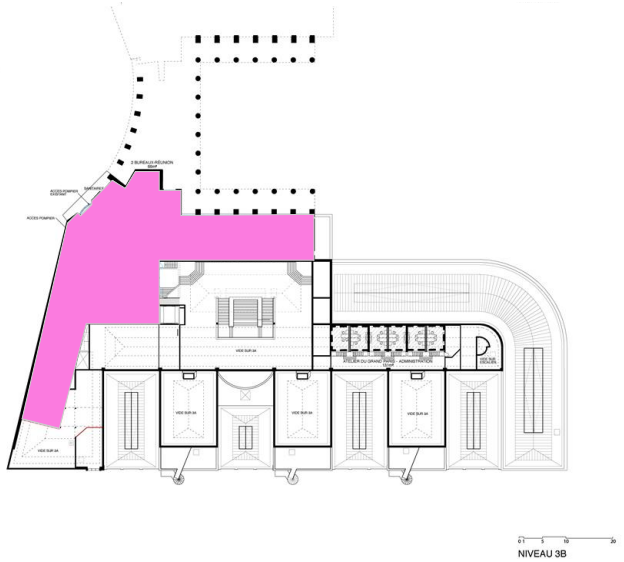
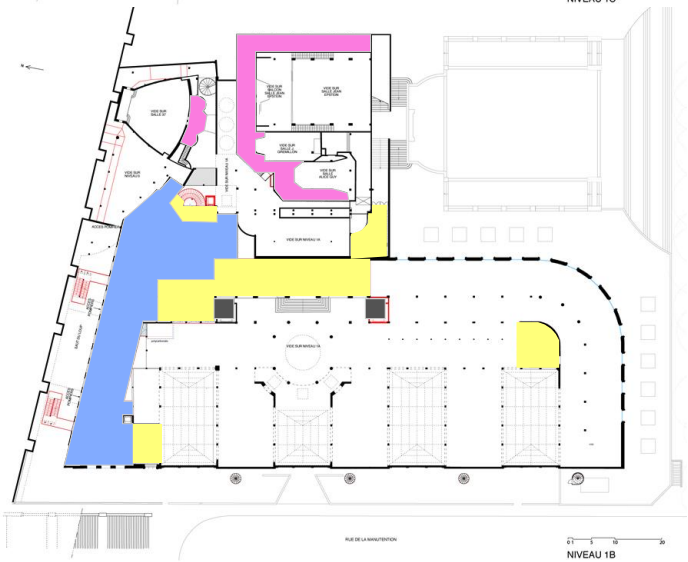


TECHNICAL DATA SHEET

BUILDING	Palais de Tokyo	
LOCATION	Paris, France	
ARCHITECT	Restoration - Lacaton I Vassal	
FLOOR AREA	22,000 sqm	
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	Double entries to galleries and theatres. Gallery - 36 sqm ticketing, in addition to 1780 sqm multi-storey connecting open plan Lobby. Theatres - stairs and lift to basement theatre lobby 700 sqm
	CAFÉ	475 sqm - adjacent to ticketing (gallery entry)
	SHOP	adjacent to ticketing (gallery entry)
	THEATRE	3 basement level theatres totaling 990 sqm, 1085 sqm Back of House
	ARTIST ACCOMMODATION	225 sqm, Private apartment for use of artist in residence.
	ATELIER	1345 sqm, Artist in residence studio, and workshare offices.
	MEMBERS FUNCTION AREA	305 sqm Private function room with adjacent catering spaces & 690 sqm associated front-of-house gallery / function area.
	CHILDREN'S LEARNING AREA	560 sqm
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	Baitogogo by Henrique Oliveira installed above children's learning area.
	ROTATING EXHIBITION SPACES	9,800 sqm open plan space divided over 3 levels. Unfinished concrete structure with exposed cable trays & HVAC
	ROOM HEIGHTS (MIN, MAX)	Varies, 4.5 - 7 - 11.5m
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	Exposed cable tray runs. Emergency lighting and batten fluorescents. Suspended or mounted show specific lighting installed for each show.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE &	Exposed steel ducted HVAC, fire suppression and smoke control.
	CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Runs of cable trays to feed supply to mains. All rigging show specific and generally exposed.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Bare concrete.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Bare concrete columns and perimeter/envelope walls. Stud frame partitions erected to divide the space for shows. Chain-link mesh divides bookshop, restaurant and children's learning centre.
	ADAPTABILITY	Total bare bones structure ready for all or any adaptation.
	DAYLIGHT CONTROL STRATEGIES	Seemingly makeshift fabric solar screens to underside of existing glass roofed rooms.
BREAKOUT ZONES	AREA (SQM)	Vast open plan lobby connected over many levels -see above.
	FURNITURE (INTEGRATED OR MOBILE)	Mobile
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	Shares common plaza with Palace Museum of Modern Art, 870 sqm "Wild Garden" and 370 sqm productive resident's garden (presumably used by residential neighbours).
ADMINISTRATIVE	OFFICES	1,145 sqm with 200 sqm resource library
	PARKING	No provision other than street parking, close to Paris Metro station Iena.
STORAGE	FRONT OF HOUSE	300 sqm Archive and storage associated with administrative areas.
	BACK OF HOUSE (CONSERVATION AREAS, ART	No conservation areas, 890 sqm Workshop associated with loading facilities.
LOADING	DOCK	2,200 sqm Internal Loading & logistics.
	GOODS LIFT	2 x 18 sqm goods lifts measured to outside of shaft at separate but central locations.

DATA SHEET MEASURED AREAS
Palais Tokyo

- | | |
|------------|-----------------------|
| GALLERIES | FRONT OF HOUSE |
| BREAK-OUT | RECEPTION & TICKETING |
| OFFICE | CAFE |
| LANDSCAPE | SHOP |
| GOODS LIFT | KIDS SPACE |
| STORAGE | THEATRE |
| LOADING | LIBRARY |

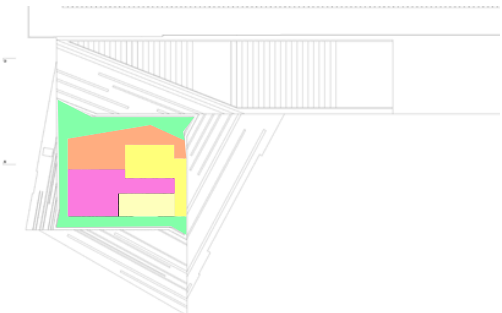
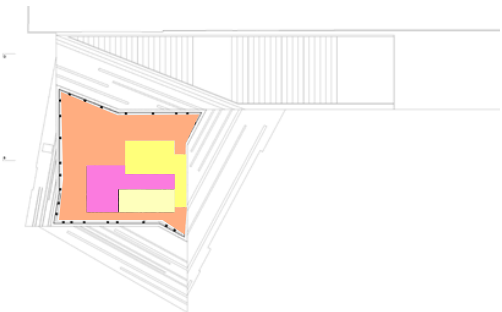
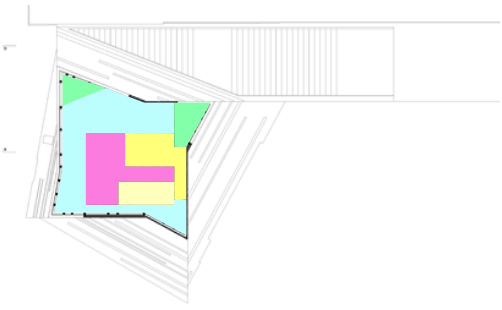
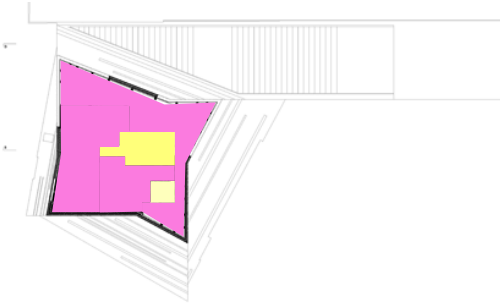
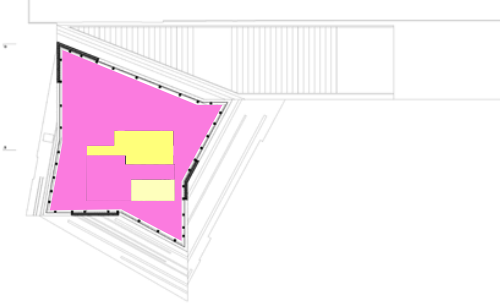
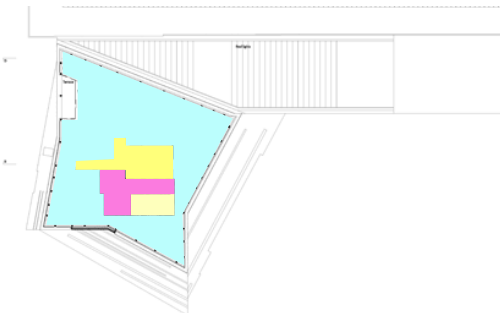
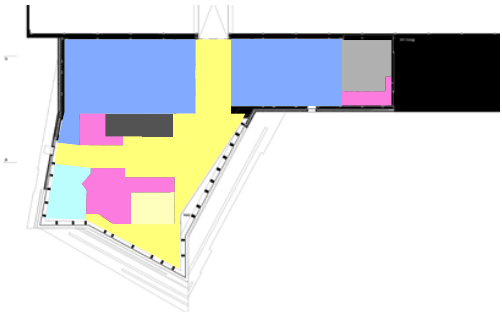
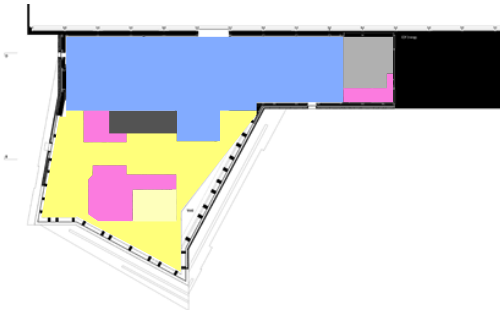
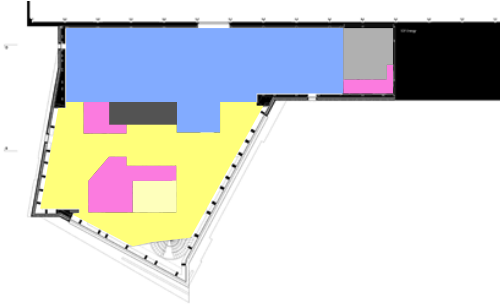
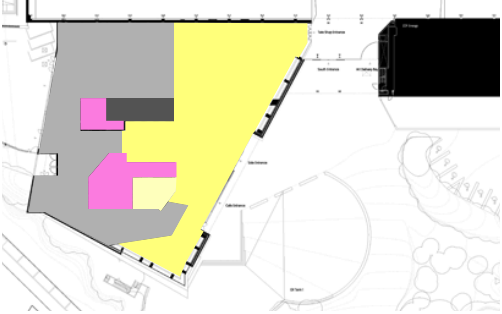
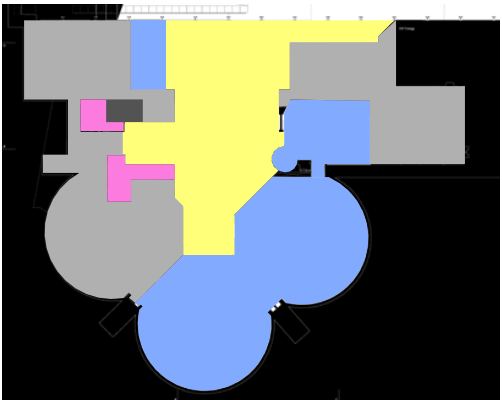


TECHNICAL DATA SHEET

BUILDING	The Switch House, Tate Modern	
LOCATION	London, England	
ARCHITECT	Herzog & DeMeuron	
FLOOR AREA	23,600 sqm.	
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	Located in adjacent main Turbine hall.
	CAFÉ	170 sqm rooftop bar, 445 sqm restaurant one level below.
	SHOP	Located in adjacent main Turbine hall.
	LIBRARY	Tate Study Studio Space = 740 sqm
	MEMBERS	400 sqm
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	2,140 sqm
	ROTATING EXHIBITION SPACES	1,165 sqm
	PERFORMANCE SPACES / MULTIMEDIA	2,000 sqm
	ROOM HEIGHTS (MIN, MAX)	Galleries 3.5m, 5.5m & 8m
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	low energy fluorescent and LED lighting throughout, including spotlights for the gallery spaces that use less than half the energy of traditional halogen spots.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE &	A/C control in space with supply air integrated floor diffusers
	CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Level 2 galleries have exposed steel beams and services and level 3 has concrete beams with recessed lighting tracks and level has diffuser fabric panels conceal structure and services above.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Rough-hewn timber floorboards
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Set plaster over plywood or MDF
	ADAPTABILITY	Spaces with lower ceilings have built in adaptability to zone the exhibition spaces into smaller rooms. Level 2 and 4 spaces not adaptable due to ceiling structure and high ceilings.
BREAKOUT ZONES	AREA (SQM)	5,800 sqm of connecting lobbies and stairs
	FURNITURE (INTEGRATED OR MOBILE)	
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	320 sqm of roof terraces associated with members, bar and rooftop viewing level.
ADMINISTRATIVE	OFFICES	660 sqm
	PARKING	N/A
STORAGE	FRONT OF HOUSE	N/A
LOADING	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	Onsite conservation not evident. Conservation areas part of greater Tate Modern BOH facilities.
	GOODS LIFT	3,210 sqm back of house and loading areas. Storage areas inclusive.
		8 x 4.2m shaft size with equal sized lift lobby every floor.

DATA SHEET MEASURED AREAS
Switch House

- GALLERIES
- BREAK-OUT
- OFFICE
- LANDSCAPE
- GOODS LIFT
- STORAGE
- LOADING
- FRONT OF HOUSE
- RECEPTION & TICKETING
- CAFE
- SHOP
- KIDS SPACE
- THEATRE
- LIBRARY

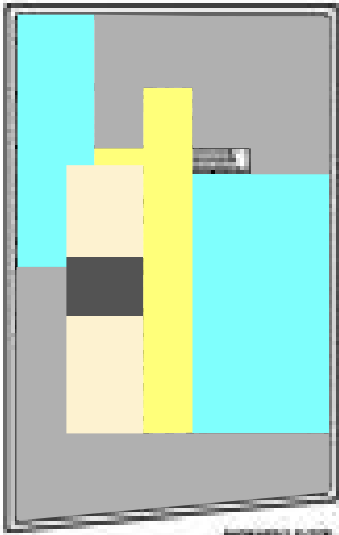


TECHNICAL DATA SHEET

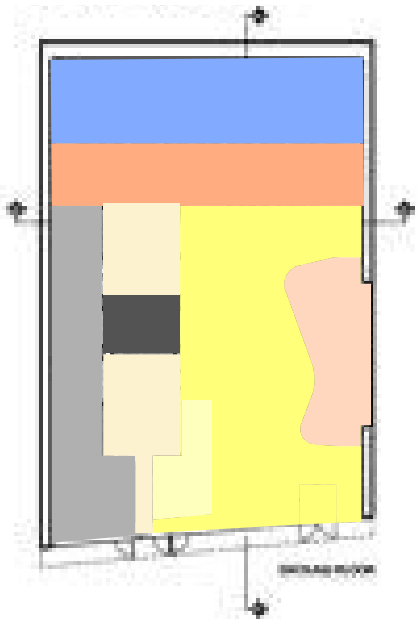
BUILDING	New Museum	
LOCATION	New York, United States of America	
ARCHITECT	SANAA	
FLOOR AREA	5454 sqm	Exhibition Area: 1,217 sqm
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	22 sqm desk within 250 sqm lobby
	CAFÉ	80 sqm
	SHOP	50 sqm Bookshop
	LIBRARY	265 sqm Education Centre (shared office meeting rooms)
	THEATRE	145 sqm
	FUNCTION	215 sqm
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	N/A
	ROTATING EXHIBITION SPACES	1,217 sqm
	ROOM HEIGHTS (MIN, MAX)	3.8m, 5.5m, 7m
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	A combination of fluorescent battens and LED spot lighting via tracks in ceiling.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Convection cooling, air is drafted in sequence from gallery to gallery up the levels. Note problems controlling construction dust between shows. Exposed painted steel beams with lighting grid and fluorescent tracks.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Troweled concrete with negative skirting junction at walls for electrical runs.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Plaster on Plywood
	ADAPTABILITY	High - highly robust industrial spaces. Floor slabs have been cut open in past exhibitions
	DAYLIGHT CONTROL STRATEGIES	Black out board over skylights, external facade grill over windows.
BREAKOUT ZONES	AREA (SQM)	Not really applicable other than primary circulation stair.
	FURNITURE (INTEGRATED OR MOBILE)	None in the exhibition spaces.
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	75 sqm roof terrace associated with function space
ADMINISTRATIVE	OFFICES	280 sqm
	PARKING	N/A
STORAGE	FRONT OF HOUSE	N/A
LOADING	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	255 sqm workshop area incl some storage
		80 sqm loading from street without weather protection
	GOODS LIFT	4 x 3.5m shaft size

DATA SHEET MEASURED AREAS
New Museum

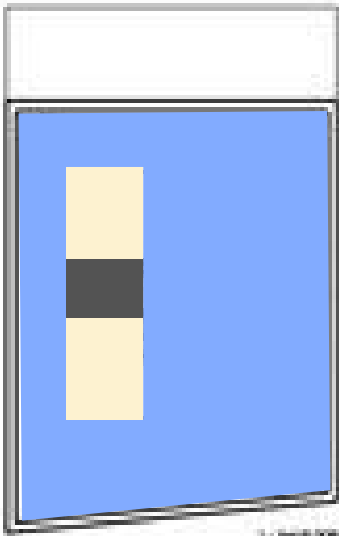
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<div></div> BREAK-OUT	<div></div> RECEPTION & TICKETING
<div></div> OFFICE	<div></div> CAFE
<div></div> LANDSCAPE	<div></div> SHOP
<div></div> GOODS LIFT	<div></div> KIDS SPACE
<div></div> STORAGE	<div></div> THEATRE
<div></div> LOADING	<div></div> LIBRARY



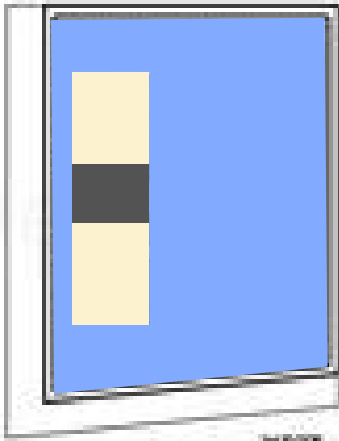
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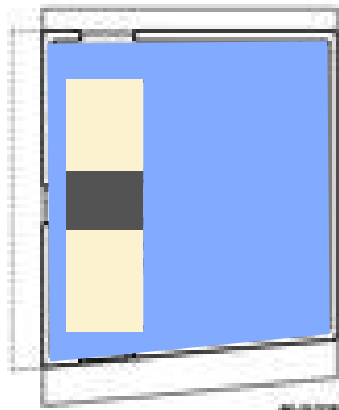
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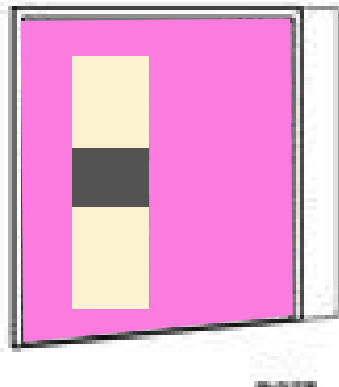
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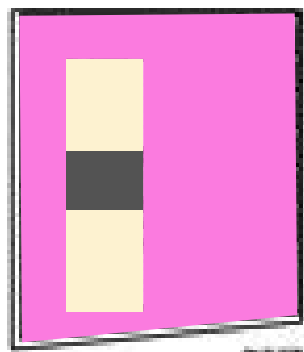
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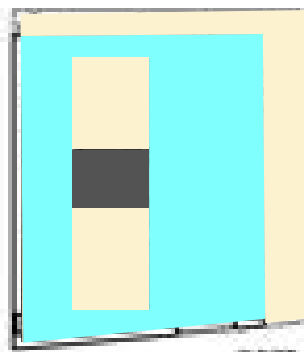
5th FLOOR



6th FLOOR



7th FLOOR







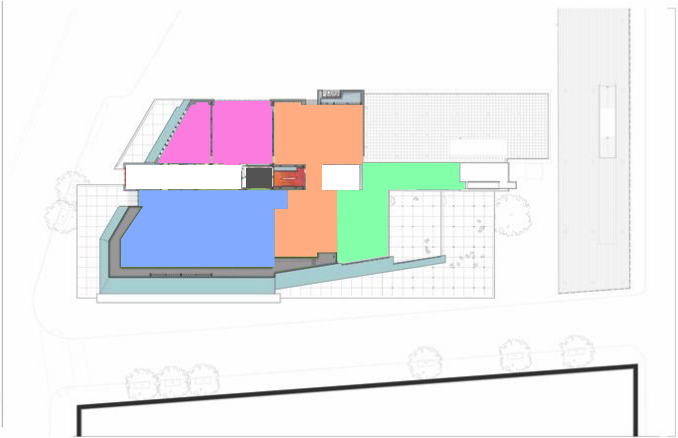
8th FLOOR

TECHNICAL DATA SHEET

BUILDING	Whitney Museum of American Art	
LOCATION	New York, United States of America	
ARCHITECT	Renzo Piano	
FLOOR AREA	20, 440 sqm	Exhibition Area: 4,645 sqm indoor
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	30 sqm Reception desk with 30 sqm BOH office. 420 sqm lobby with 105 sqm lobby gallery. Approx. 100 sqm public amenities.
	CAFÉ	280 sqm Lobby Restaurant, 365 sqm roof level restaurant.
	SHOP	145 sqm Shop - largely books.
	LIBRARY	N/A
	THEATRE	320 sqm Auditorium, 120 sqm "Black Box" Theatre / Multimedia space.
	FUNCTION	145 sqm conference centre
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	3,830 sqm
	ROTATING EXHIBITION SPACES	105 sqm Lobby Gallery
	ROOM HEIGHTS (MIN, MAX)	5.2 and 4.5m galleries
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED)	Suspended lighting tracks within LED spots. Designed by ARUP engineers
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Convection cooling with basement plant with very large risers to roof. A/C diffusers in ceiling.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Exposed services of lighting, structure, A/C and accessible rigging points
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Salvaged timber from neighbouring industrial sites with a clear sealant.
	ADAPTABILITY	All wall finishes plaster on plywood.
	DAYLIGHT CONTROL STRATEGIES	Spaces have been designed to allow for easy adaptability through temporary walls.
		Secondary walls built to create break-out lounges near big floor-to-ceiling glass windows
BREAKOUT ZONES	AREA (SQM)	Lobbies created at each end of gallery space facing full height glass.
OUTDOOR SPACE	FURNITURE (INTEGRATED OR MOBILE)	Bespoke timber benches in gallery spaces. Grey leather couches at either end of galleries in breakout spaces.
	AREA (SQM) AND ANY KEY STRATEGIES	1,020 sqm entry plaza, 1205 sqm connecting roof terraces
ADMINISTRATIVE	OFFICES	3000 sqm approx.
	PARKING	N/A
STORAGE	FRONT OF HOUSE	260 sqm FOH crate store
LOADING	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	370 sqm Conservation, 55 sqm conservation archive "works on paper". Basement Mechanical and storage areas 2,500 sqm estimated.
	GOODS LIFT	260 sqm Loading
		4.5x3.5m shaft size

DATA SHEET MEASURED AREAS
Whitney Museum of American Art

- | | | | |
|---|------------|---|-----------------------|
|  | GALLERIES |  | FRONT OF HOUSE |
|  | BREAK-OUT |  | RECEPTION & TICKETING |
|  | OFFICE |  | CAFE |
|  | LANDSCAPE |  | SHOP |
|  | GOODS LIFT |  | KIDS SPACE |
|  | STORAGE |  | THEATRE |
|  | LOADING |  | LIBRARY |

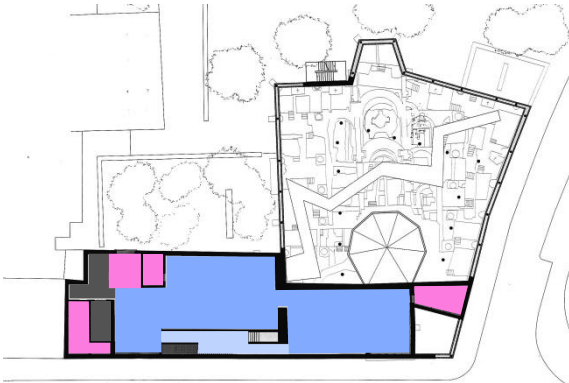
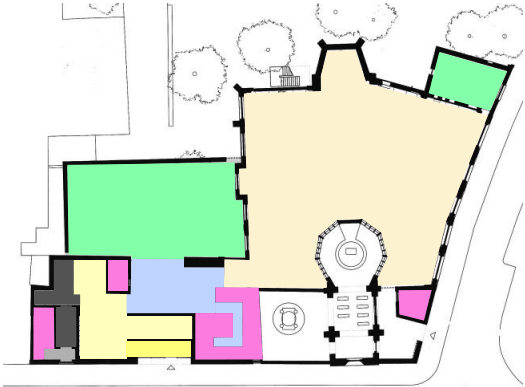


TECHNICAL DATA SHEET

BUILDING	Kolumba Museum	
LOCATION	Cologne, Germany	
ARCHITECT	Peter Zumthor	
FLOOR AREA	5,880 sqm Approx.	Exhibition Area 1750 sqm
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	65 sqm Combined ticketing and shop
	CAFÉ	N/A
	SHOP	Combined with receptions
	LIBRARY	45 sqm Reading Room
	THEATRE	N/A
	CHILDREN & MATERNITY	N/A
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	1,700 sqm Permanent Collection - Rotating year long exhibitions.
	ROTATING EXHIBITION SPACES	N/A
	ROOM HEIGHTS (MIN, MAX)	4.5, 5, 6.5, 11m galleries
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED)	Removable custom spot lighting in cast ceiling recesses.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Hydronic heating/cooling within concrete. Concealed air convection - presumed behind light fixtures.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Cast Concrete, light fixtures may conceal contain power supply connection.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Jura Limestone Terrazzo
	ADAPTABILITY	Concrete with a limewash render, fixings are drilled and visibly patched
	DAYLIGHT CONTROL STRATEGIES	No
		Film applied to glass, curtains.
BREAKOUT ZONES	AREA (SQM)	100 sqm ground floor lobby past ticketing uniting outdoor spaces to lifts and public stair.
	FURNITURE (INTEGRATED OR MOBILE)	Mobile seating only to reading room. One long leather bench per exhibition level.
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	860 sqm undercroft heritage area (foundations of demolished Romanesque church), 60 & 350m enclosed courtyards.
ADMINISTRATIVE	OFFICES	24 sqm meeting room on 2nd gallery level, 580 sqm top level offices.
	PARKING	No
STORAGE	FRONT OF HOUSE	a small locker room for storage of visitor items.
	BACK OF HOUSE (CONSERVATION AREAS, ART	50 sqm conservation area associated with reading room.
LOADING	DOCK	From street straight to goods lift via 8 sqm lobby.
	GOODS LIFT	3 x 5.5m shaft size

DATA SHEET MEASURED AREAS
Kolumba

<div></div> GALLERIES	<div></div> FRONT OF HOUSE
<div></div> BREAK-OUT	<div></div> RECEPTION & TICKETING
<div></div> OFFICE	<div></div> CAFE
<div></div> LANDSCAPE	<div></div> SHOP
<div></div> GOODS LIFT	<div></div> KIDS SPACE
<div></div> STORAGE	<div></div> THEATRE
<div></div> LOADING	<div></div> LIBRARY

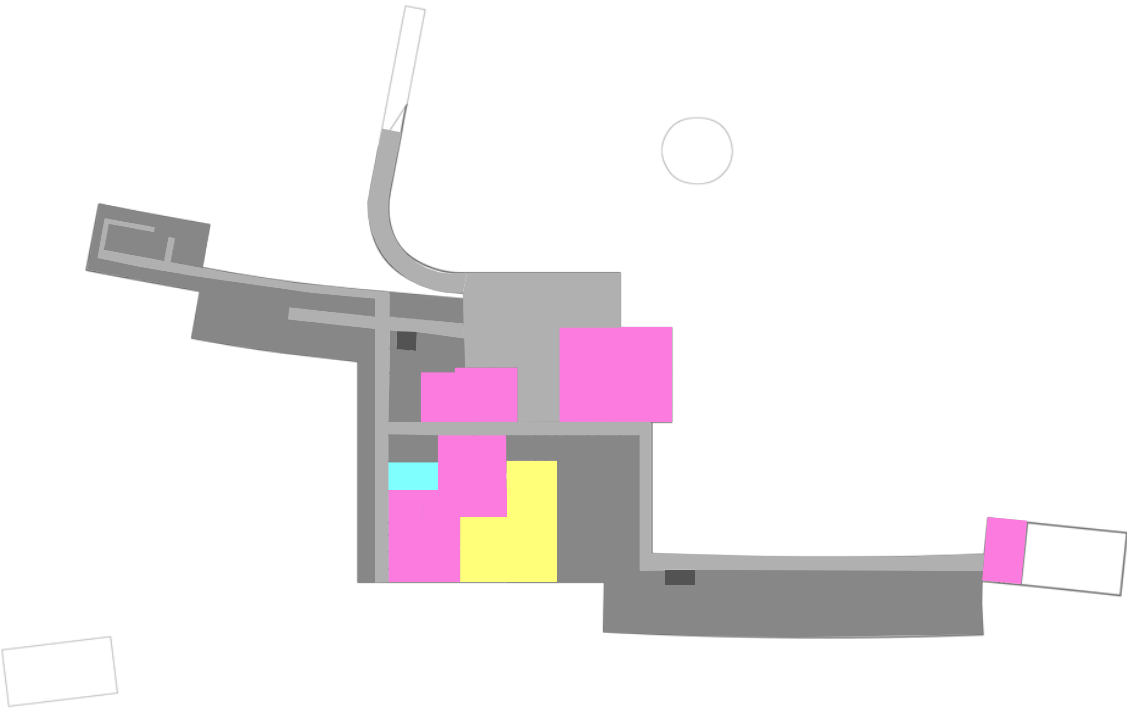
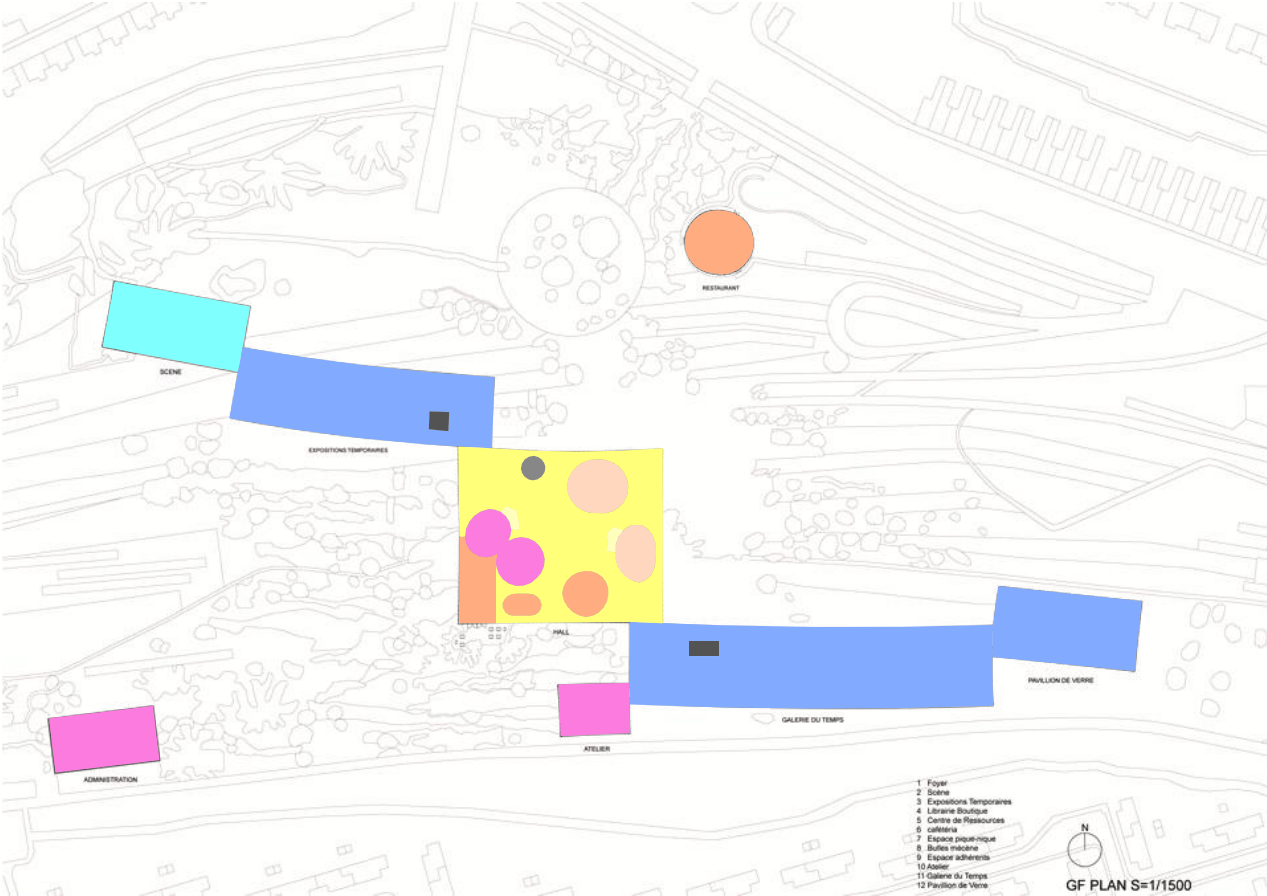


TECHNICAL DATA SHEET

BUILDING	Louvre Lens	
LOCATION	Lens, France	
ARCHITECT	SANAA	
FLOOR AREA	28,000 sqm	
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	2 opposing entries each with 26 sqm Reception Desks.
	CAFÉ	290 sqm in-house open-plan café with acoustic-sealed children's lunch area. External 385 sqm fine dining restaurant .
	SHOP	290 sqm Bookstore
	RESOURCE CENTRE	Split level 1480 sqm + 185 sqm Training Rooms
	THEATRE	1000 sqm Public Theatre, 150 sqm Staff Theatre
	MEMBERS SPACE	200 sqm located within lobby
	CHILDREN & MATERNITY	80 sqm lunchroom for school groups "Picnic Room".
	DISCOVERY CENTRE	Below Lobby 1000 sqm "Discovery Centre" with infographics, digital information and presentations on Louvre with view into conservation area.
	PERMANENT COLLECTION / FIXED ARTWORKS	3000 sqm permanent gallery featuring art and artefact works through 3000 years.
	ROTATING EXHIBITION SPACES	1,120 sqm Glass Pavilion & 2,000 sqm temporary gallery.
GALLERY SPACES	ROOM HEIGHTS (MIN, MAX)	5.5m - 6m approx. Fairly uniform throughout.
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	Adjustable spot on tracks
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE &	Return air concealed above ceiling, presumably behind skylight venetian diffusers.
	CEILING (STRUCTURE, LIGHTING GRID, RIGGING	Profiled steel rafters, horizontal louvers interspersed with lighting track, glass skylight over.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Concrete. Array or cast in power boxes with concrete tile covers. Supply air linear floor diffusers cross exhibition space at 4.5m centres.
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Brushed aluminium or glass. No hanging opportunity. Temporary walls constructed.
	ADAPTABILITY	Large container for temporary builds within. Temporary exhibition suspends ceilings to lower height, base building walls and ceilings cannot be adapted.
	DAYLIGHT CONTROL STRATEGIES	Ceilings have skylights diffused through horizontal adjustable louvers. Presumably black-out conditions can be achieved by covering glass from above.
	BREAKOUT ZONES	AREA (SQM)
	FURNITURE (INTEGRATED OR MOBILE)	2,310 sqm Glass open plan foyer.
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	Mobile
		Situated within city green-belt / park.
ADMINISTRATIVE	OFFICES	1720 sqm basement level offices & administration. 625 sqm external administration building, 180 sqm office meeting space located within lobby.
	PARKING	Large areas located adjacent to site, shared by football stadium.
STORAGE	FRONT OF HOUSE	50 sqm lobby storage space.
	BACK OF HOUSE (CONSERVATION AREAS, ART	6,200 sqm back of house basement storage with 2,110 sqm below ground access corridors.
LOADING	DOCK	2,315 sqm below ground Loading dock with 440 sqm vehicular access tunnel
	GOODS LIFT	6x5m goods lift to each major exhibition wing, with access stair adjacent to each.

DATA SHEET MEASURED AREAS
Louvre Lens

<div></div> GALLERIES	<div></div> FRONT OF HOUSE
<div></div> BREAK-OUT	<div></div> RECEPTION & TICKETING
<div></div> OFFICE	<div></div> CAFE
<div></div> LANDSCAPE	<div></div> SHOP
<div></div> GOODS LIFT	<div></div> KIDS SPACE
<div></div> STORAGE	<div></div> THEATRE
<div></div> LOADING	<div></div> LIBRARY




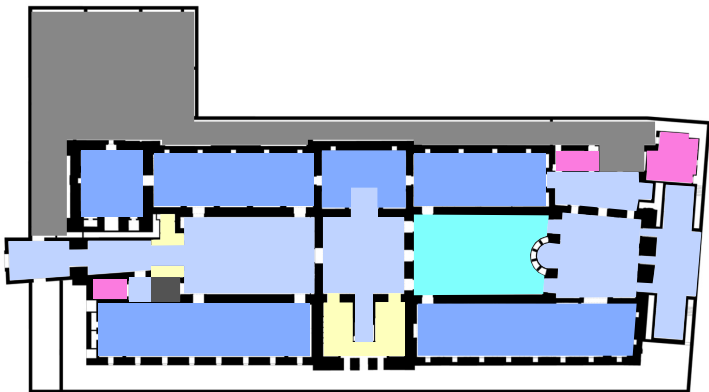
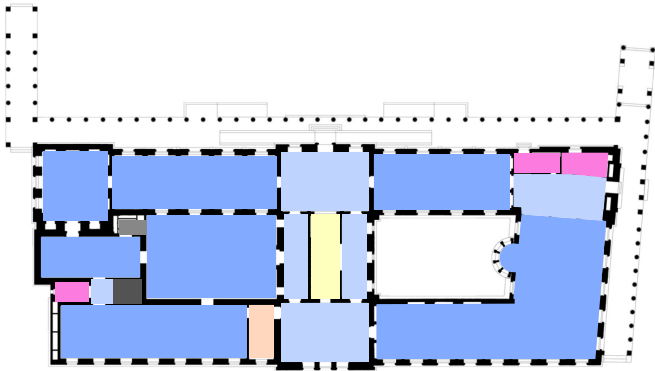
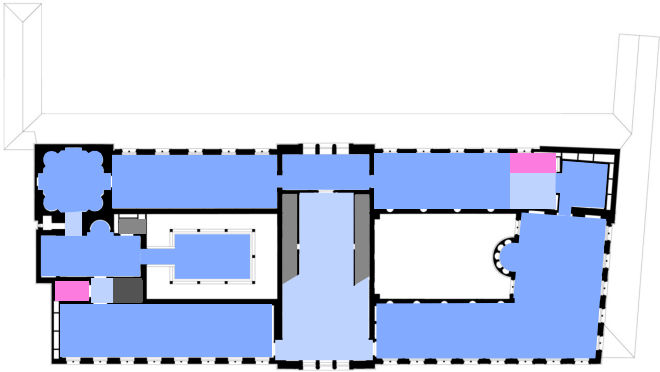
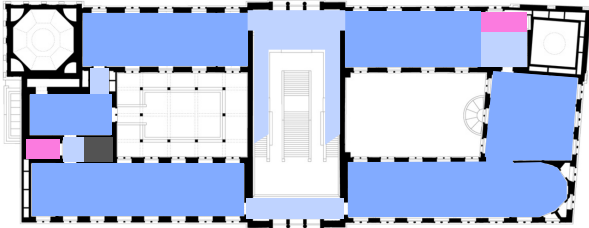
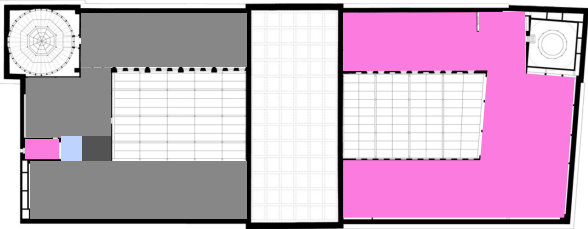
- 13 Espace Découverte
- 14 Réserves d'oeuvres d'art
- 15 Accueil Group
- 16 Locaux du Personnel
- 17 Petit Auditorium
- 18 Centre de Ressources
- 19 Salle de formation
- 20 Atelier

TECHNICAL DATA SHEET

BUILDING	Neues Museum	
LOCATION	Berlin, Germany	
ARCHITECT	David Chipperfield	
FLOOR AREA	20500 sqm	
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	Ticketing kiosk external to building. 30m2 LGF ticketing associated with Functions and below-ground pedestrian link/tunnel to other museums.
	CAFÉ	N/A
	SHOP	84 sqm
	LIBRARY	N/A
	THEATRE	470 sqm enclosed courtyard floor used as temporary reception space, 500m2 associated vestibule and separate 265m2 entry.
	CHILDREN & MATERNITY	N/A
	CLOAK	162 sqm
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	11,780 sqm
	ROTATING EXHIBITION SPACES	3,320 sqm
	ROOM HEIGHTS (MIN, MAX)	3, 5.7, 7.3m galleries, 13m domed ceiling feature spaces, 16m central stair, 27m glass covered courtyard.
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED)	Integrated into ceiling beams. Lighting via track lighting with LED spots
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING	A/C control with diffusers located along panelled walls.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	No provision for rigging evident
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Terrazzo flooring with integrated power outlets recessed with bronze covers.
	ADAPTABILITY	Mostly the existing walls of the museum, all introduced walls are in terrazzo.
	DAYLIGHT CONTROL STRATEGIES	No provision for adaptability as museum is designed to house one collection
		operable blinds over windows manage daylight issues in instances where light enters gallery spaces.
BREAKOUT ZONES	AREA (SQM)	940 sqm Central Feature Stair + 3,000 sqm vestibule and entry spaces
	FURNITURE (INTEGRATED OR MOBILE)	Mobile leather benches.
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	Situated on Museum Island in Berlin, with many museums sharing a public plaza.
ADMINISTRATIVE	OFFICES	1045 sqm predominantly located at the top level / roof void.
	PARKING	Not evident
STORAGE	FRONT OF HOUSE	150 sqm
	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	2915 sqm back of house storage, conservation spaces not evident.
LOADING	GOODS LIFT	Not evident, perhaps located below ground.
		7m x 5m shaft size.

DATA SHEET MEASURED AREAS
Neues Museum

- | | | | |
|---|------------|---|-----------------------|
|  | GALLERIES |  | FRONT OF HOUSE |
|  | BREAK-OUT |  | RECEPTION & TICKETING |
|  | OFFICE |  | CAFE |
|  | LANDSCAPE |  | SHOP |
|  | GOODS LIFT |  | KIDS SPACE |
|  | STORAGE |  | THEATRE |
|  | LOADING |  | LIBRARY |

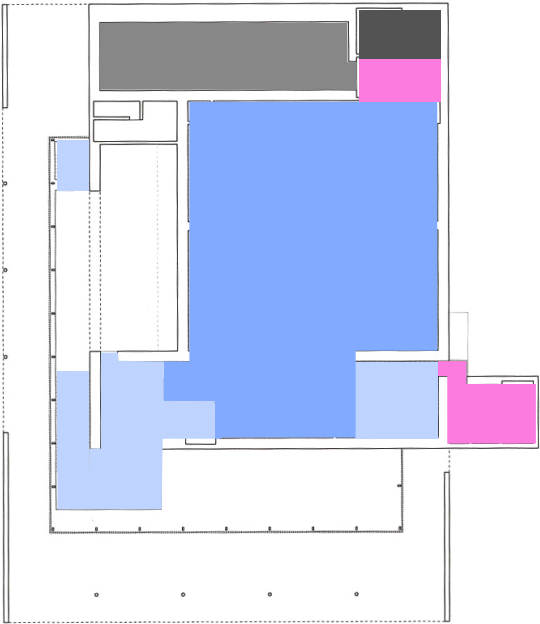
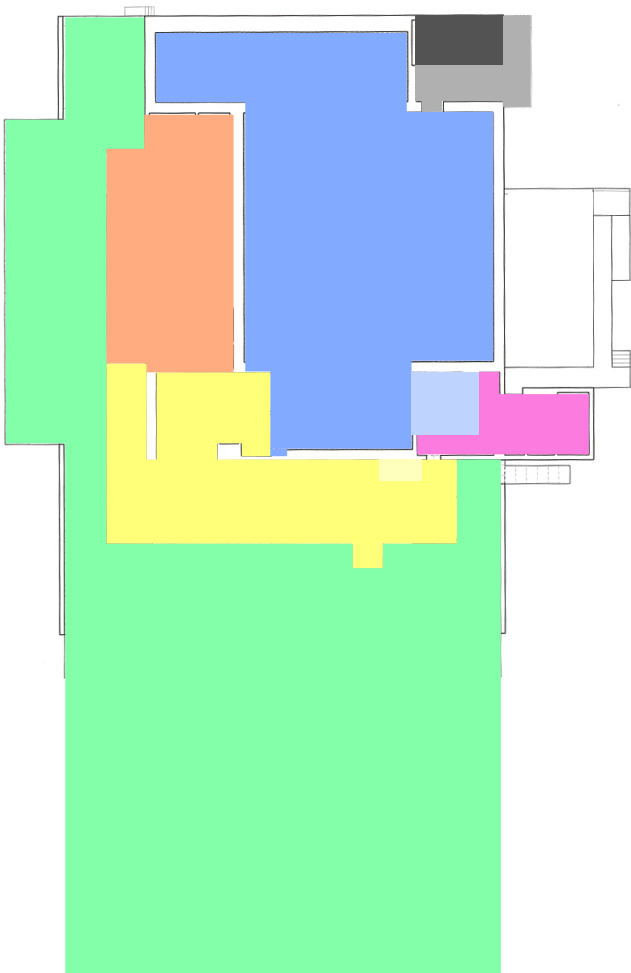
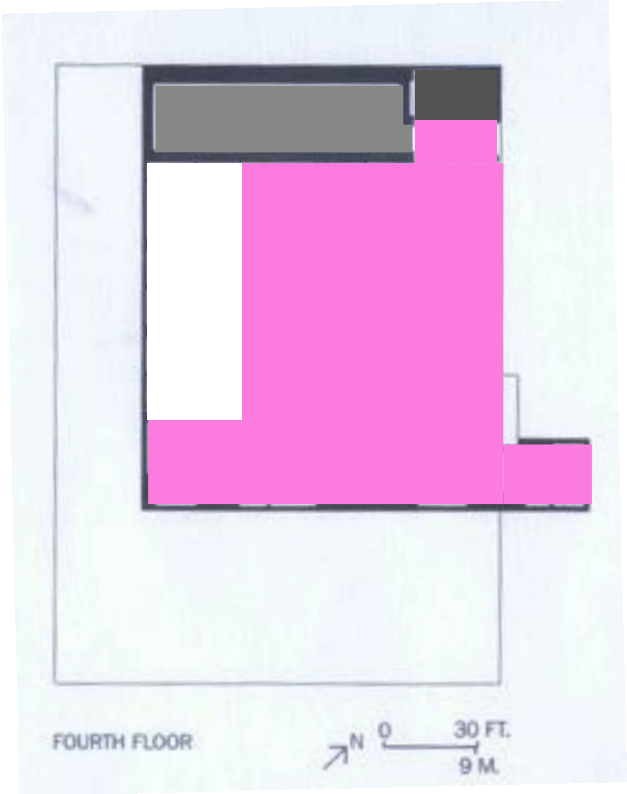
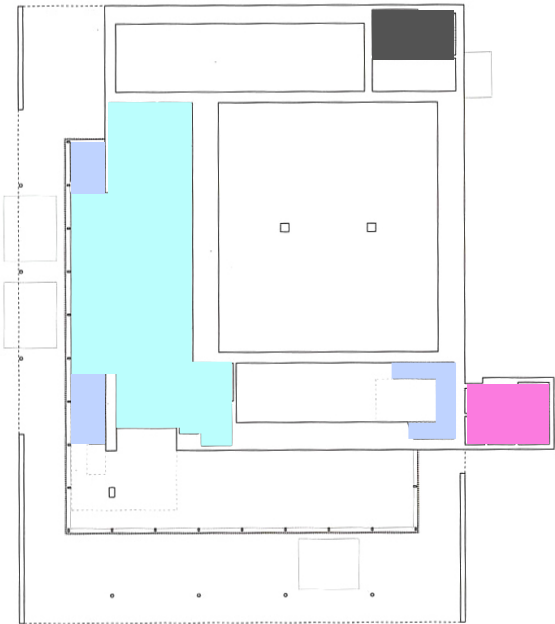


TECHNICAL DATA SHEET

BUILDING	Gallery of Horyuji Treasures	
LOCATION	Tokyo, Japan	
ARCHITECT	Yoshio Taniguchi	
FLOOR AREA	8,910 sqm Approx.	4,030.55 SQM Exhibition Area
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	9 sqm Ticket Desk within 440sqm lobby
	CAFÉ	315 sqm Restaurant
	SHOP	N/A
	LIBRARY	372 sqm Reading Room / Study Centre
	THEATRE	N/A
	CHILDREN & MATERNITY	N/A
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	1730 sqm
	ROTATING EXHIBITION SPACES	N/A
	ROOM HEIGHTS (MIN, MAX)	5.2m ceilings in Galleries. 15m Lobby ceiling height
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	Track lighting surface-mounted with LED spots and showcase integrated lighting for displays. Integrated adjustable lighting within
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE &	A/C with concealed ducting and diffusers located on walls (high above sightline)
	CEILING (STRUCTURE, LIGHTING GRID, RIGGING	concrete clad in painted plaster. Rigging points not evident.
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	A mixture of stone tiles and carpet
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Walls clad in a mixture of timber-veneered panels, painted plaster and acoustic panels
	ADAPTABILITY	Not adaptable. It was designed to house a singular collection of 300 items.
	DAYLIGHT CONTROL STRATEGIES	Total daylight exclusion from sensitive artworks.
BREAKOUT ZONES	AREA (SQM)	225 sqm of spacious stairs and circulation
	FURNITURE (INTEGRATED OR MOBILE)	Mobile furniture located at periphery of gallery spaces.
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	2400 sqm entry courtyard and side courtyard for restaurant.
ADMINISTRATIVE	OFFICES	990 sqm top floor offices, 420 sqm back of house stairs and lifts.
	PARKING	N/A
STORAGE	FRONT OF HOUSE	N/A
LOADING	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	170 sqm storage associated with admin spaces, 870sqm shared basement storage and plant
	DOCK	60 sqm
	GOODS LIFT	4.6 x 4.6m shaft size

DATA SHEET MEASURED AREAS
Horiyuji Treasures

<div></div> GALLERIES	<div></div> FRONT OF HOUSE
<div></div> BREAK-OUT	<div></div> RECEPTION & TICKETING
<div></div> OFFICE	<div></div> CAFE
<div></div> LANDSCAPE	<div></div> SHOP
<div></div> GOODS LIFT	<div></div> KIDS SPACE
<div></div> STORAGE	<div></div> THEATRE
<div></div> LOADING	<div></div> LIBRARY

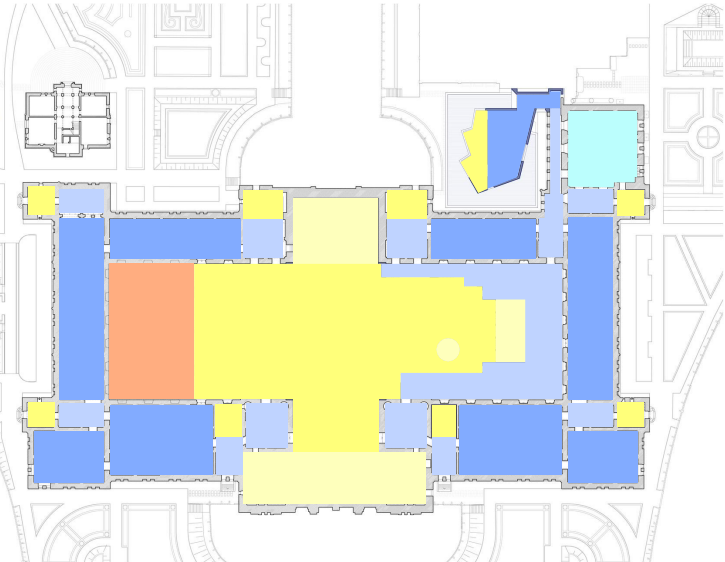


TECHNICAL DATA SHEET

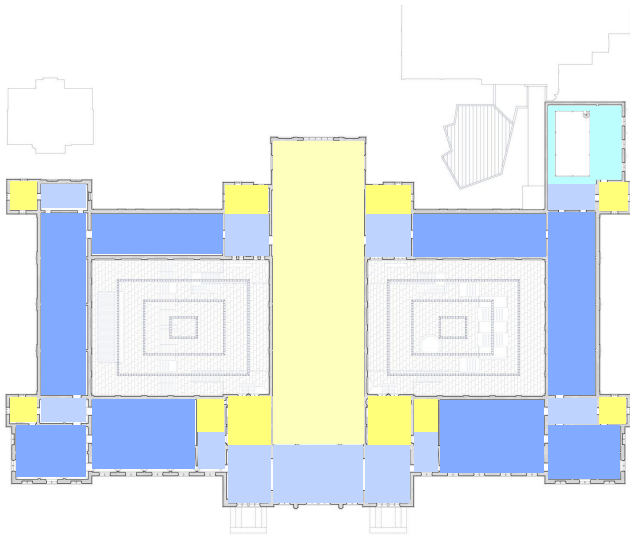
BUILDING	Rijksmuseum	
LOCATION	Amsterdam, Netherlands	
ARCHITECT	Envelope = Cruz y Ortiz Arquitectos, Interiors = Wilmotte and Associates	
FLOOR AREA	30,000 sqm	Exhibition Area: 12,000 sqm
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	20 sqm Circular desk to centre of lobby, 90sqm stadium style ticket check / security.
	CAFÉ	550 sqm bar style servery & seating mezzanine contiguous with main lobby.
	SHOP	550 sqm undercroft below café.
	LIBRARY	660 sqm
	THEATRE	890 sqm directly below lobby.
	CHILDREN & MATERNITY	N/A
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	6,900 sqm
	ROTATING EXHIBITION SPACES	775 sqm
	ROOM HEIGHTS (MIN, MAX)	Varies, Gallery spaces 3.6m, 6.8m, 9m, 13m. Lobby 30m
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE & CEILING (STRUCTURE, LIGHTING GRID, RIGGING FLOORING (MATERIALS, SERVICES FIXINGS ETC.) WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?) ADAPTABILITY	Diffused lighting through skylights refitted to diffused artificial light to ensure consistent light levels. In other galleries lighting is via suspended steel tracks with LED spots. A/C diffusers located along walls and in some instances floorboards. Existing ceiling structure of existing build retained. No provision for rigging only suspension of lighting tracks Timber floorboards with grey carpets in Gallery of Honour Most existing walls with paint finish. New temporary walls introduced as a steel framed structure with timber framing within and plasterboard finish to wall. Can be patched and painted after every show. No provision for wall adaptability as it is an existing building.
	DAYLIGHT CONTROL STRATEGIES	Existing skylights refitted with artificial light to manage daylight entering. Operable blinds cover existing windows located within galleries.
	BREAKOUT ZONES	AREA (SQM) 2,295 sqm Lobby, 2,000 sqm Stairs & Lifts, 2,400 sqm Vestibules between galleries.
	OUTDOOR SPACE	FURNITURE (INTEGRATED OR MOBILE) AREA (SQM) AND ANY KEY STRATEGIES A suite of designed steel framed, fabric wrapped seating in a variety of configurations (bench, with back, with back and arm-rests) brings a high level of consistency across museum. Building defines public park surrounded by other museums.
	ADMINISTRATIVE	OFFICES 355 sqm roof level studios. Further admin spaces likely in other building, or below ground. Not evident. PARKING Consolidated below-ground parking beneath park share by many museums
STORAGE	FRONT OF HOUSE	N/A
LOADING	BACK OF HOUSE (CONSERVATION AREAS, ART DOCK	Likely in other building, or below ground. Not evident. Below ground - not visited.
	GOODS LIFT	3.4 x 4.4m shaft size - shared passenger service. Very large public staircase and atira available to physically lift works.

DATA SHEET MEASURED AREAS
Rijks

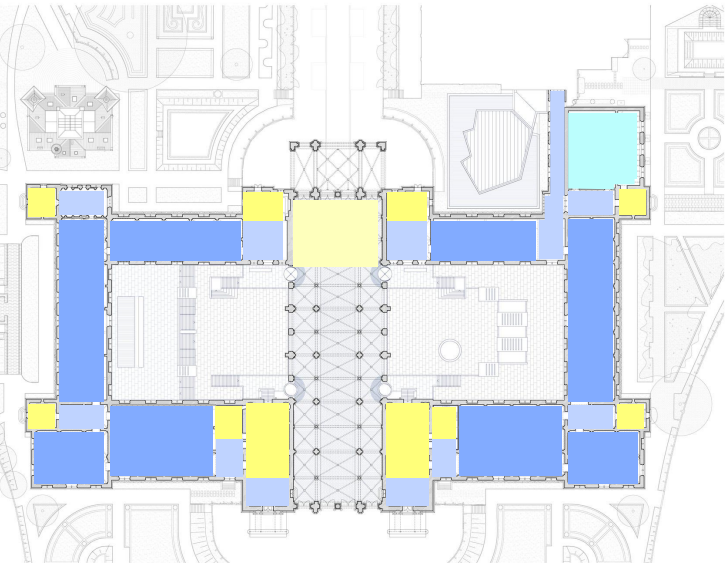
- GALLERIES
- BREAK-OUT
- OFFICE
- LANDSCAPE
- GOODS LIFT
- STORAGE
- LOADING
- FRONT OF HOUSE
- RECEPTION & TICKETING
- CAFE
- SHOP
- KIDS SPACE
- THEATRE
- LIBRARY



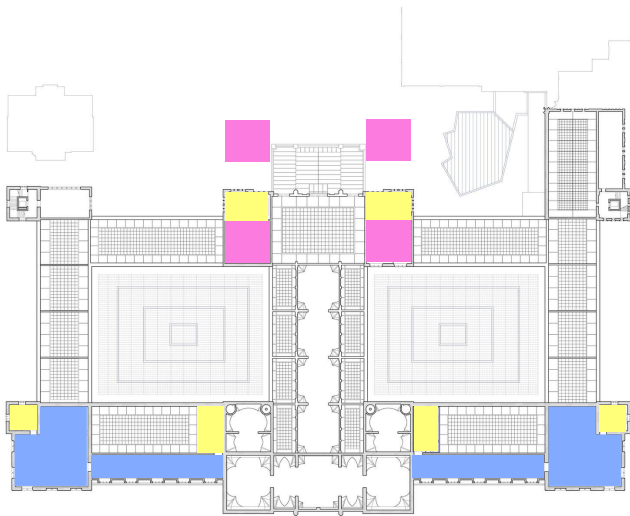
Ground floor
The New Rijksmuseum, Amsterdam
May 2016 version



Second floor
The New Rijksmuseum, Amsterdam
May 2016 version



First floor
The New Rijksmuseum, Amsterdam
May 2016 version



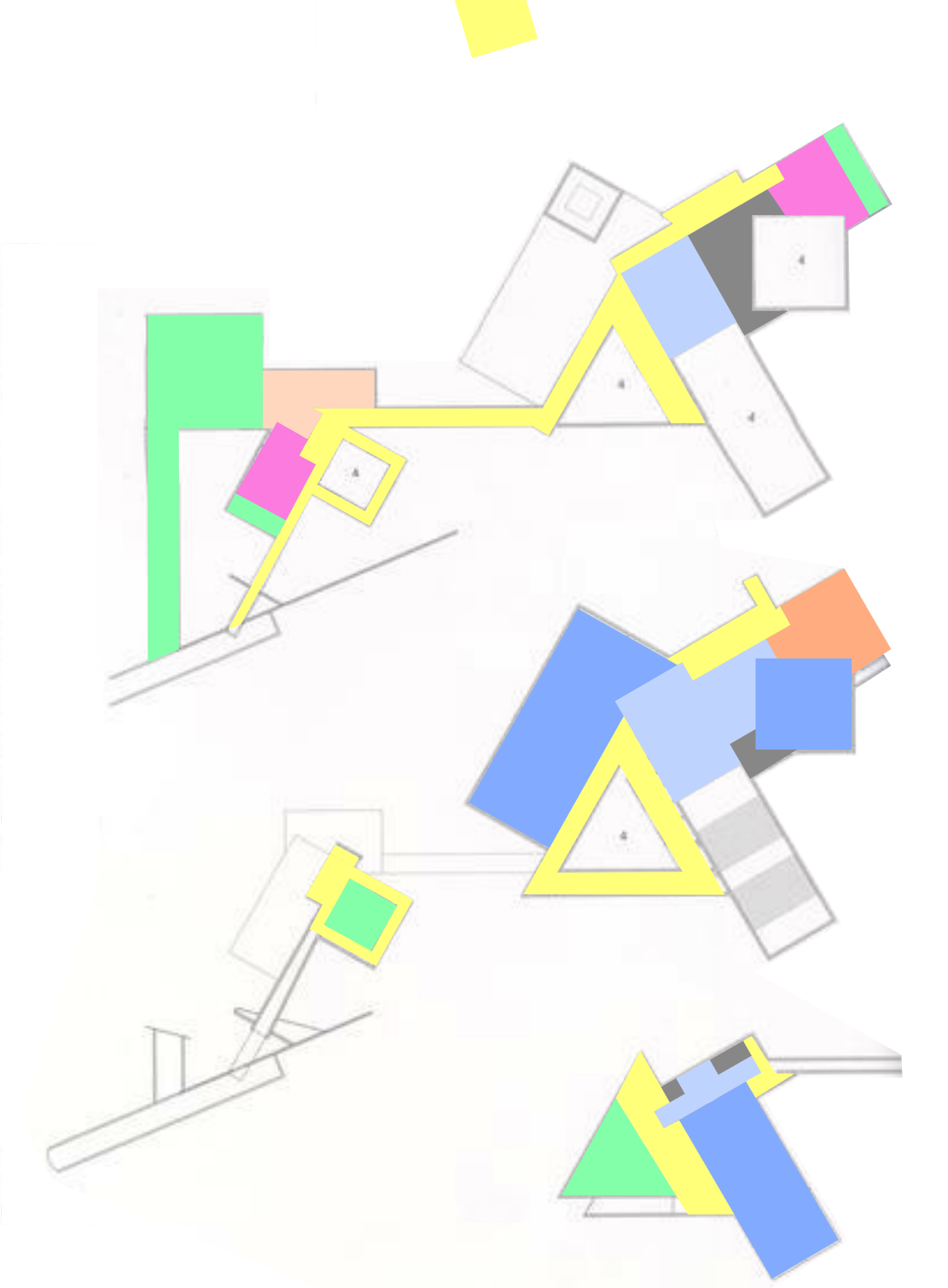
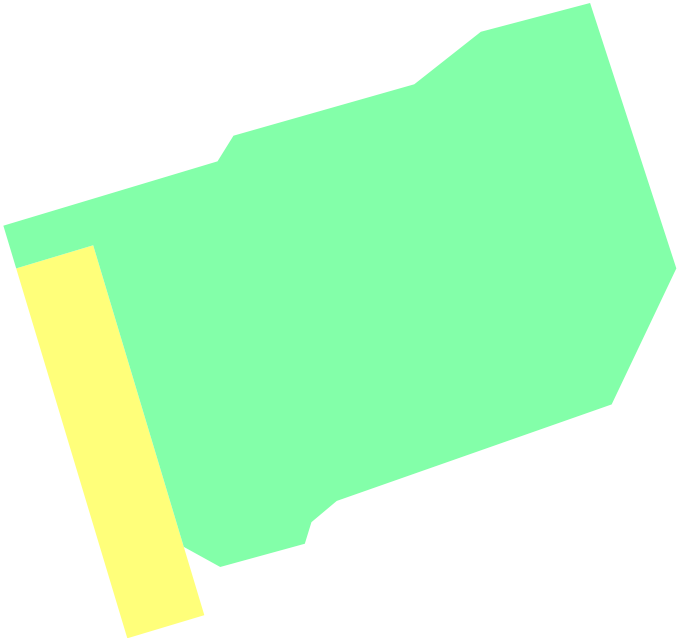
Third floor
The New Rijksmuseum, Amsterdam
May 2016 version

TECHNICAL DATA SHEET

BUILDING	Chichu Art Museum	
LOCATION	Naoshima Island, Japan	
ARCHITECT	Tadao Ando	
FLOOR AREA	2573.48 sqm Approx	
FRONT OF HOUSE	INFORMATION, RECEPTION / TICKETING	400 sqm Ticketing / lockers / bathrooms building with parking are located 100m walk from the gallery.
	CAFÉ	130sqm
	SHOP	Exit through 98sqm shop
	LIBRARY	N/A
	THEATRE	N/A
	CHILDREN & MATERNITY	N/A
GALLERY SPACES	PERMANENT COLLECTION / FIXED ARTWORKS	795 sqm - Walter De Maria, Claud Monet & James Turrell
	ROTATING EXHIBITION SPACES	N/A
	ROOM HEIGHTS (MIN, MAX)	3.2M - 8 M
	LIGHTING INFRASTRUCTURE (LIGHTING GRID. SUSPENDED	Corridors = Batten Lighting within cast-in ceiling troffers. Natural daylighting to Monet & De Maria (possible hidden lighting in skylight). Turell works are self illuminating.
	ENVIRONMENTAL CONTROL (LIGHTING, TEMPERATURE &	Central AC plan in floor plan. Ducting and diffusers not evident.
	CEILING (STRUCTURE, LIGHTING GRID, RIGGING	N/A
	FLOORING (MATERIALS, SERVICES FIXINGS ETC.)	Concrete, Marble stone 20mm x 20mm x 20mm
	WALLS (MATERIAL, HANGING RAILS, FIXINGS ALLOWED?)	Concrete, or plaster painted white.
	ADAPTABILITY	N/A
	DAYLIGHT CONTROL STRATEGIES	Monet and De Maria naturally illuminated through skylight. Monet rooms presumably uses defuse UV film and supplement electrical lighting hidden from view.
BREAKOUT ZONES	AREA (SQM)	865 sqm Corridors, 430 sqm vestibules i.e. waiting areas before each artwork. Numbers within art spaces are managed by ushers.
	FURNITURE (INTEGRATED OR MOBILE)	Integrated within vestibule areas
OUTDOOR SPACE	AREA (SQM) AND ANY KEY STRATEGIES	Patrons ascend and descend the floors via 155 sqm light-well/courtyards. 20 sqm Office Courtyard, 36 sqm Manager's Office Terrace.
ADMINISTRATIVE	OFFICES	76 sqm associated with shop. 90 sqm admin / managerial office.
	PARKING	2730 sqm
STORAGE	FRONT OF HOUSE	Not evident
	BACK OF HOUSE (CONSERVATION AREAS, ART	Not evident - remote from site.
LOADING	DOCK	N/A De Maria & Turrell appear commissioned for the building itself.
	GOODS LIFT	Not evident from public spaces

DATA SHEET MEASURED AREAS
Chi Chu

<div></div> GALLERIES	<div></div> FRONT OF HOUSE
<div></div> BREAK-OUT	<div></div> RECEPTION & TICKETING
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