

Zeitschrift: Schweizer Ingenieur und Architekt
Herausgeber: Verlags-AG der akademischen technischen Vereine
Band: 113 (1995)
Heft: 44

Artikel: Light construction at the Museum of Modern Art, New York
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DOI: <https://doi.org/10.5169/seals-78803>

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Nina Rappaport, New York

Light Construction at the Museum of Modern Art, New York

Terence Riley, curator of architecture at the Museum of Modern Art in New York City, has chosen «Light Construction» as a way to link together new ideas expressed in contemporary architecture for the exhibition currently on display through January 2 1996. Light in English has its double meaning of both light as in *Licht* and light as weightlessness (*leicht*), which Riley exploits.

The recent buildings, projects and sculpture from over 30 architects from 10 countries, including three from Switzerland, are presented in a very simple and straight forward exhibition design. Panels are displayed with text and photographs behind Plexiglass and large scale photographs are back lit. Most projects have a model. Two full scale objects and a video are also on view. For the catalogue Terence Riley's essay touches on many themes in the exhibit such as the historical use of glass, the concept of Modern Movement transparency, translucency, technology, computer generated buildings and media images. The catalogue is illustrated with photographs and includes descriptions by Anne Dixon and Riley of all the work in the exhibition.

Although Riley says that with the exhibition «Light Construction», he is not real-

ly coining a term or trying to create an -ism, in many ways people and critics in the USA would like to see it as such because we are prone to categorize everything, especially in art and architecture. The Museum of Modern Art's historically prominent role in defining architectural theory makes people look to it as a trend setter, so the exhibition won't be able to avoid attention. But history has proven over the past decades, that there are no strict definitions for styles, nor are periods in art precise, but they are trends which continue past each other and back again. Architects now design in almost any style they chose, and unlike the Modernist era, the architects exhibited here have not consciously formed a philosophical group to promote a specific design theory.

The work exhibited has some affinity to each other which became apparent as I discussed the exhibit with some of the architects. But these architects are not conscious of their work as a trend, nor is 'light construction' necessarily part of their philosophy as a consciously selected theme. As Juha Kaakko from Finland said «I have never seen many of these projects, for example, the Swiss, but I like the work here.» Spanish architect Juan Herreros said «It is like being in a familiar landscape, I have a Deja Vu feeling.» Kazuyo Sejima of Japan said «I respect the work in the show.»

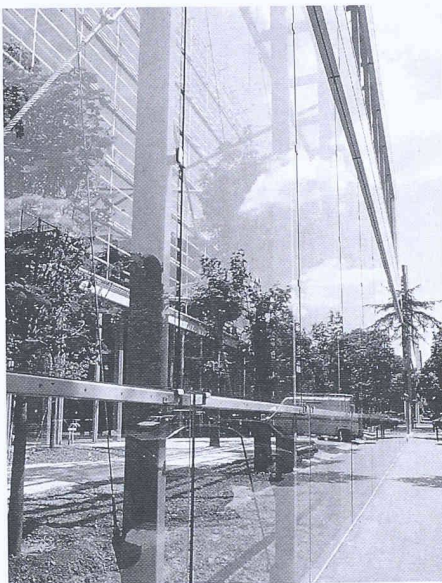
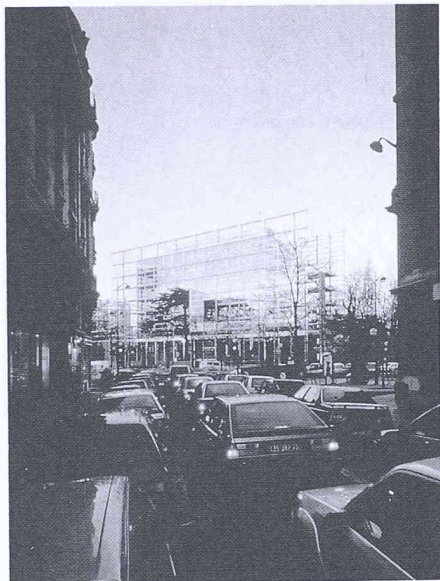
The exhibition raises many thought provoking questions about themes in contemporary architecture and if they should be connected. Riley emphasizes that these architects «have redefined the relationship between the observer and the structure by interposing elements that both veil and illuminate. In this architecture of 'lightness', buildings become intangible, structures shed their weight, and facades become (visually) unstable, dissolving into an often luminous evanescence.» It is significant in that for the first time this work has been gathered together in a museum. One could look at the work in many different ways depending on one's point of view. Riley provides us with the theme of light and light construction as one aspect of a designers orientation whose overall philosophies and purposes might be different.

In the catalogue Riley refers to Colin Rowe and Robert Slutzky's essay «Transparency: Literal and Phenomenal» of 1963 as a base for a discussion. The designers focus on the phenomenal material quality of glass and metals with transparent, translucent, and reflective surfaces which is a reinterpretation of the immateriality of glass as was used by Modern Movement architects, who used glass more literally for its transparency and ability to disappear. The work exhibited consists primarily of opaque or translucent glass that creates a veil and can block or obstruct a view and reveal shadows. The skin is used here as a veil to conceal rather than expose the structure. This distances the viewer and creates ambiguity and multiple reading as well as depth. In some buildings this skin is often

Picture 1.

Renzo Piano. Kansai International Airport, Osaka, Japan. 1994. Photo: Shinkenchiku-sha. © 1995, The Museum of Modern Art, NY





Pictures 2, 3.

Jean Nouvel. Cartier Foundation, Paris. 1994.

Photo left: Ph. Rhault. © 1995, The Museum of Modern Art, NY. Photo right: C. Hall

used as a film screen for information or attraction. While other architects manipulate the skin to create buildings with multiple layers of insulation or mechanical facades.

Architects are more capable of creating light construction with the new technologies and engineering by firms such as Ove Arup and Peter Rice who are credited in the catalogue, but not emphasized enough in the exhibition. The projects appear lightweight while the contemporary «expressions of lightness are distinct from earlier conceptions of lightweight architecture: they imply a seeming weightlessness rather than a calculation of relative weight», said Riley. Buildings can look light without actually being lightweight – glass is indeed heavy.

These buildings, which are also beautiful, show how architects continue to be concerned with creating spaces with natural light to improve our environment and with artificial light and signage to create theatrical effects.

The Cartier Foundation was the inspiration

Some of the works included in the exhibit are more closely aligned than others. They better illustrate light construction and incorporate issues of energy efficiency, technology and design with transparent and translucent materials.

The Cartier Foundation designed by Jean Nouvel in Paris (1994, pictures 2, 3) was the inspiration for the exhibition. As Riley said «Nouvel was thinking of glass in terms of its physical properties. The one facade is pulled away from the other to increase the number of reflections and the visual complexity. The building looked like a modern building, but one of the major aspects of modernism – the longing for absolute transparency and structural clarity – wasn't

there.» The facade is frontal like a billboard or portal gateway veiling the actual building facade, through it one can see the building's gallery spaces with its sliding glass walls into the existing garden which Nouvel was required to keep in the scheme. There is an ambiguity with the reflective and transparent glass surfaces so that it is difficult to see if the garden is actually there. Nouvel achieves «an architecture of light and shadow which had been principally associated with solid masonry structures, such as the villa that this building replaces», said Riley.

In Rem Koolhaas's Two Patio Villas in Rotterdam (1991) the translucent qualities of glass are emphasized in the multiple readings of the many reflective walls of different types of glass. Where Mies would have had a solid, the central patio courtyard creates a void, and multiple reflections block and reveal to visually combine the inner and outer spaces.

In Fumihiko Maki's proposal for the Salzburg Congress Center (1992 competition, picture 4), the skeleton frame cube has facades of perforated metal covered in glass with louvers that reveal the forms within so that the activities, floor plan and section are seen simultaneously through the transparent layers. The materials are not only translucent but are lightweight with the exterior wall and interior conference room suspended from the frame, exploiting the lightness of materials.

In other buildings lightweight high technological innovations create 'light construction' in the development of the separate skin for mechanical elements and movable parts. In Nicholas Grimshaw's Waterloo International Terminal (1993), the glass paneled roof is held together with pin joints and flexible neoprene gaskets to allow for movement from trains passing, wind and

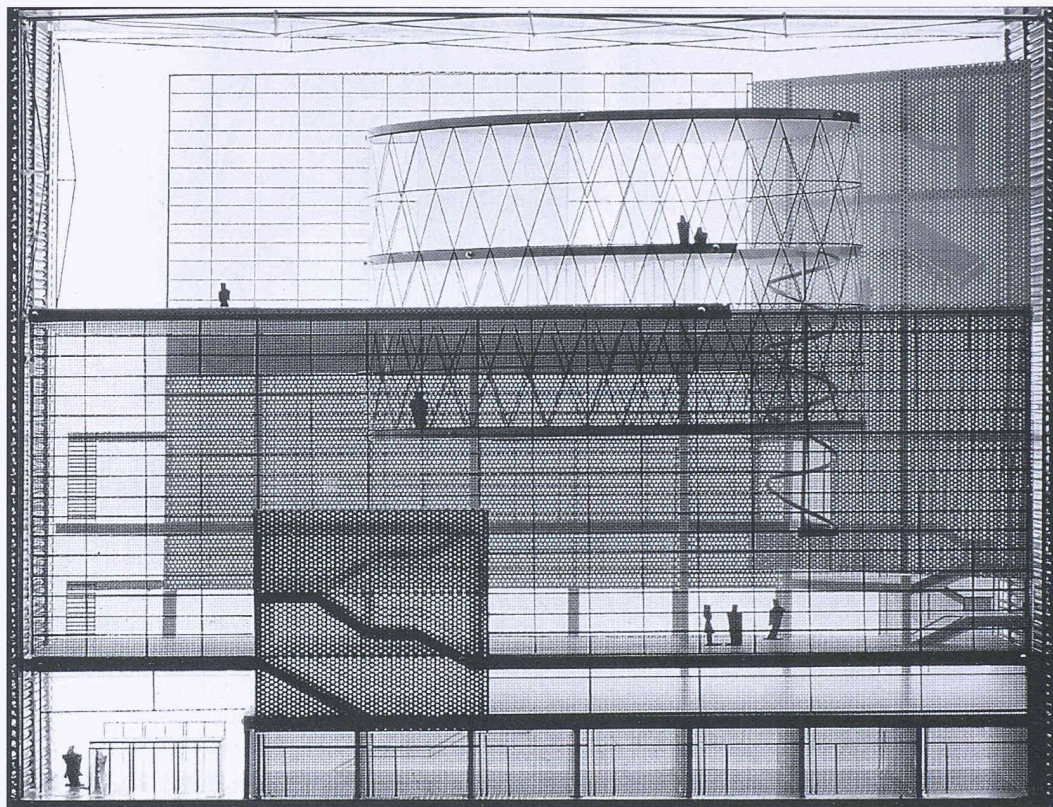
heat. The metal and glass shingle panes move independently giving the sinuous building a lightweight form.

In Renzo Piano's Kansai Airport (1994, picture 1), the undulating cocoon-like metal skin of stainless steel tiles exemplifies the principal of lightness as well as the importance of the roof in Japanese architecture. Piano said that «it was clear that the building was going to be 1.7 kilometers long ... immense. So we immediately thought about 'lightness', and about breaking down the scale by the design of the fabric and texture.»

The Swiss representatives

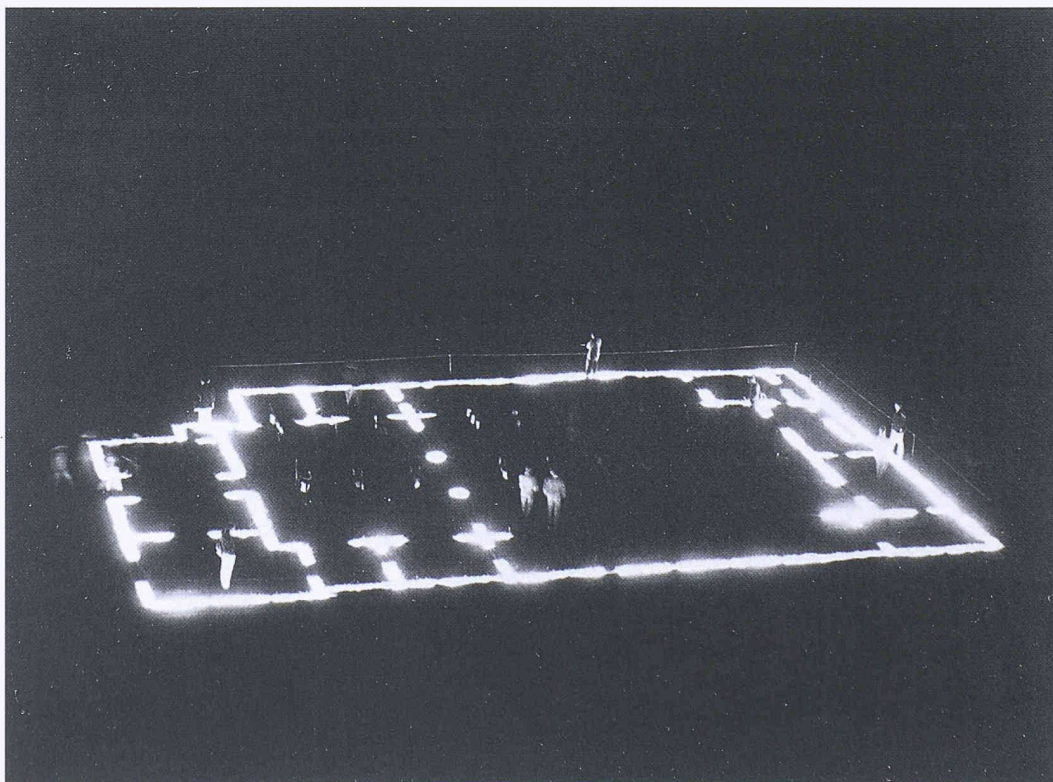
Herzog and de Meuron's, Goetz Gallery in Munich (1992, picture 6), exemplifies the importance of materials and ambiguity of structure in comparison to the directness of modernist construction theory. The simple rectangular form suggests three stories although there are two. The sand blasted glass double layer insulating panels of the ground floor and of the upper clerestory frame the central birch laminate plywood panels. These conceal the truss and structural system while the clerestories allow diffused light into the spaces below. The building reflects its surroundings in the reflection of the birch trees on the glass, so that the glass takes on a solid appearance, and in the use of the birch for the panels. «The two materials are very flush», as Herzog said, «with certain light the materials are almost the same, the light changes they fall apart, it is not just a game because we like to be magicians; any material because of chemistry has a similarity, the key is to find specific differences.»

The importance of the separate skin as a veil is also seen in Herzog and de Meuron's Signal Box auf dem Wolf in Basel



Picture 4.

Fumihiko Maki. Congress Building, Salzburg, Austria. Competition project 1992. Photo : Toshihara Kitajima. © 1995, The Museum of Modern Art, NY



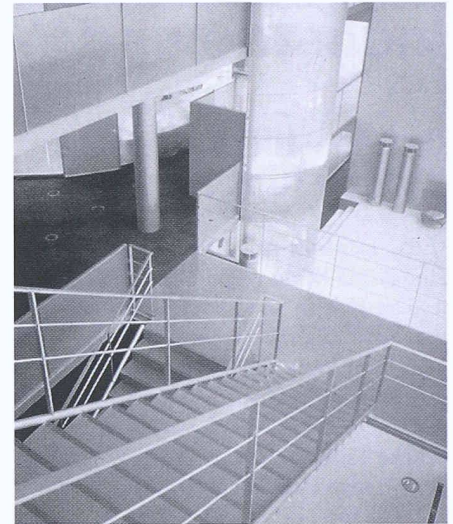
Picture 5.

Melissa Gould. Floor Plan, Linz, Austria. Installation 1991. Photo: Melissa Gould. © 1995, The Museum of Modern Art, NY



Picture 6.
Jaques Herzog and Pierre de Meuron. Goetz
Collection, Munich. 1992. Photo: Hisao Suzuki

Picture 7.
Toyo Ito. ITM Building, Matsuyama, Japan. 1993.
Photo credit: Shinkenchiku-sha. Both pictures
on this page © 1995, The Museum of Modern
Art, NY



(1993). Copper bands wrapped around the concrete building both conceal and reveal the underlying structure and the windows so that it is literally a skin around the building and functions as a Faraday Cage.

The use of the translucent qualities of glass are also appropriate for passive energy efficiency and diffused light for museums. Many architects prefer to capture light and diffuse it through the use of opaque surfaces such as in the above mentioned Goetz Collection. In Gigon and Guyer's Kirchner Museum in Davos (1993), the diffused light enters the gallery spaces through clerestories of frosted glass sheathing and the matte glass ceiling over the galleries which conceals daylight.

Peter Zumthor's Kunsthau Bregenz, currently under construction, is like an ice palace or crystal with a membrane of frosted glass shingles. The outer skin over the inner skin lets air pass through a 1.22 m wide space and controls the amount of sun needed to heat or cool the water pipes in the walls. The rectangular concrete shell volumes are separated by a 2.13 m gap which brings light into the center of the building and is then diffused through the frosted glass suspended ceilings in the galleries. Riley said «This discreet isolation contributes significantly to the striking appearance of the building: Shadows of spaces within are revealed through the building's facades.» The insulation isolates the structure of the building.

A Focus for Architecture of the Past Decade

American architect Steven Holl's Helsinki Museum of Contemporary Art, which begins construction in December, brings natural light into the museum galleries by placing skylights on the curved zinc roof at the second and first floor gallery levels

and then bounces reflected light from the atrium space into other galleries. He also uses the reflective qualities of water and ice from a pool below.

In Toyo Ito's Shimosuwa Museum (1993) the building's long narrow lightweight amorphous form was computer generated to create a uniquely shaped aluminum panel tile roof. This thin skin shields a layer of mechanical equipment. The interior a passageway, with a glass ceiling looks out to a court adjacent to a pool of water and brings light into the center of the building.

In Tod Williams and Billie Tsien's Phoenix Sculpture Pavilion, to be completed in 1996, a fiberglass resin dome-shape form with a central oculus hovers 2.13 m above the ground on legs. The translucent material evokes the changing light of the desert and filters the sun. Water is sprayed at the height of 61 m and then evaporates before hitting the ground to cool the exhibit space.

More active energy efficiency is exemplified by buildings such as Norman Foster's Business Promotion Center in Duisburg, Germany (1993). Anne Dixon said that «Foster's is a refined, systemic and transmutative modernism, as if the ante of what is modern has been raised.» Air spaces between the two glass facades has with computer and manually operated louvers. The air cavities act as chimneys to draw hot air up in the summer and insulate the building in winter. The skin is suspended from a ring beam at the roof and is attached to floor slabs with movable joints.

As presented in Riley's exhibition, «Light Construction» as a conceptual philosophy is not forceful enough to connect the works in and of itself. The exhibit could have been organized in many other ways

and included other buildings. Instead it could be an exhibit of architecture of the past 10 years, or of metal structures in recent architecture, or the technology and history of glass in architecture, or new modernism, yet Riley has selected «light» and «light construction» as his theme with its variety of interpretation, translucency, multiple layers and ambiguity as a focus for architecture of the past decade and possibly for years to come.

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