THE BUILDING SUPPORT STRUCTURE IN URBAN CONTEXT

with emphasis on more recent architecture

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Structures not only give support to buildings to make them possible, but they also may articulate as well as ENERGIZE URBAN SPACE. In other words, they affect and can enrich the urban environment by providing freedom of form giving and LIBERATING SPACE.

They cause a SPATIAL DYNAMICS for instance through the use of BRIDGES spanning across space and connecting it or through the ENCLOSURE and COVERING of space, or by LIFTING the building or parts of the building up in the air to free the building from the ground, or to hang parts of the building from above.

Structures range from the large scale of organization to the small tactile scale of the detail. Structures naturally do not have to be acrobatic, they can be symbolic and express a higher dimension of meaning .

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The following topics are addressed in this presentation:

A. The large scale of urban mega-structures (i.e. building shapes) which allow public space to continue underneath or into the building, i.e. the separation of the building from the ground. They may provide support to urban elements such as streets, small plazas, promenades, atria, staircases, bridges, terraces, and so on.

B. The soft tissue of atria or open/leftover space to allow urban space to penetrate into the building, to articulate the spirit of urban space from a communal point of view.

C. Structures that connecting urban space to underground facilities such as malls, parking garages, subways, etc.

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D. Structures on a more personal and intimate scale demonstrating the building edge that opens up to interact with the urban context.

E. Bridges and stairs (possibly seen as large details) as connecting elements of outdoor and indoor space that includes articulation of indoor space by causing special events that give meaning.

F. The interaction of outdoor and indoor space through wall treatment: the transparent skin, the mullion structure (e.g. cable members) as a special event, the relationship of column to solid wall, and the fragmentation of the wall.

G. The artistic treatment of the building edge, the effect of special details as architectural events.

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Following, many examples will be shown that celebrate the ART OF ENGINEERING and demonstrate the complexity of structural engineering and its infinite richness.

Sometimes architects will

- articulate straight engineering thinking
- sometimes they will expose the building structure and articulate the effort of support in a tectonic sense
- sometimes they will play with structure and enclosure
- sometimes forms may only suggest the complexity of the hidden structure

Obviously, there is no limit to form giving.

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A. LARGE-SCALE BUILDING BODIES

The large scale of urban mega-structures is discussed which allow public space to continue underneath or into the building, i.e. the separation of the building from the ground. They may provide support to urban elements such as streets, small plazas, promenades, atria, staircases, bridges, terraces, and so on. In other words the first 100 ft (30 m) or so of tall buildings must be given a scale that people can respond to.

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Hong kong and Shanghai Bank, Hong Kong, 1985, ***Foster/Arup:*** The stacked bridge-like structure allows opening up of the central space with **vertically stacked atria** and **diagonal escalator bridges** by placing **structural towers with elevators** and **mechanical modules** along the sides of the building. This approach is quite opposite to the central core idea of conventional high-rise buildings. The building celebrates technology and architecture of science as art. It expresses the performance of the building and the **movement of people**. The support structure is clearly expressed by the clusters of **8 towers** forming **4 parallel mega-frames**. A mega-frame consists of **2 towers** connected by **cantilever suspension trusses** supporting the vertical hangers which, in turn, support the floor beams. Obviously, the structure does not express structural efficiency.

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Fuji-TV, Headquarter, Tokyo, 1996, *Kenzo Tange Arch.*: exposing the public spaces at various levels in the building by providing urban elements such as small plazas, promenades, staircases, bridges and terraces. 100-m long sky-corridors connect office tower and media tower and titan covered globe surrounded by water and green. Mega-frame construction using Vierendeel columns and beams from steel and partially reinforced concrete.

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Hiroshi Hara, the architect of the **Umeda Sky City**, Osaka (1993) called the building with the urban roof and floating gardens, ***city in the air*.** The building expresses postmodern sensibilities, challenging the unity of form by articulating diversity. The 40-story, 173 m high double-tower (54 m apart) is **connected by a huge 2-story 54-m span roof bridge structure with a large circular sky window**. This square platform- bridge (150 m above the ground) provides urban space and gardens in the air. The human scale is reinforced by a pair of almost floating **escalators**, free-standing transparent **elevator shafts** and staircases, as well as a 6-m wide **steel sky bridge** that links the buildings at the 22 level.

Although the building required advanced structural engineering especially in earthquake country, Hara did not express the effort of the support structure; he softened structural engineering by the finish of reflective glass, polished aluminum plates, undulating surfaces, etc.

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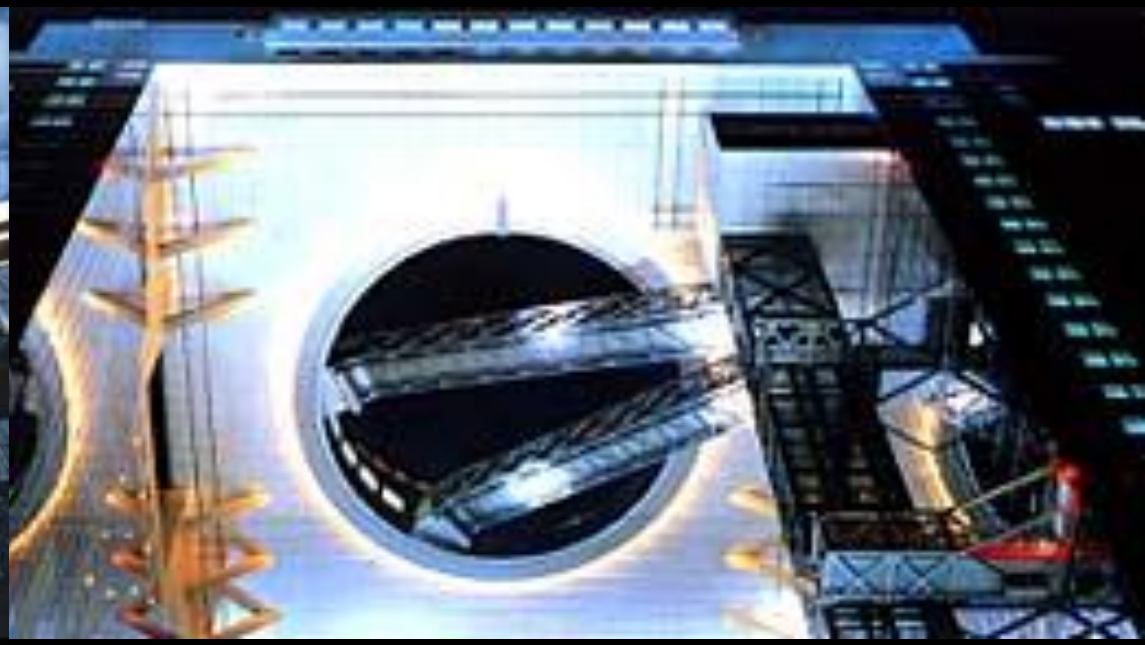

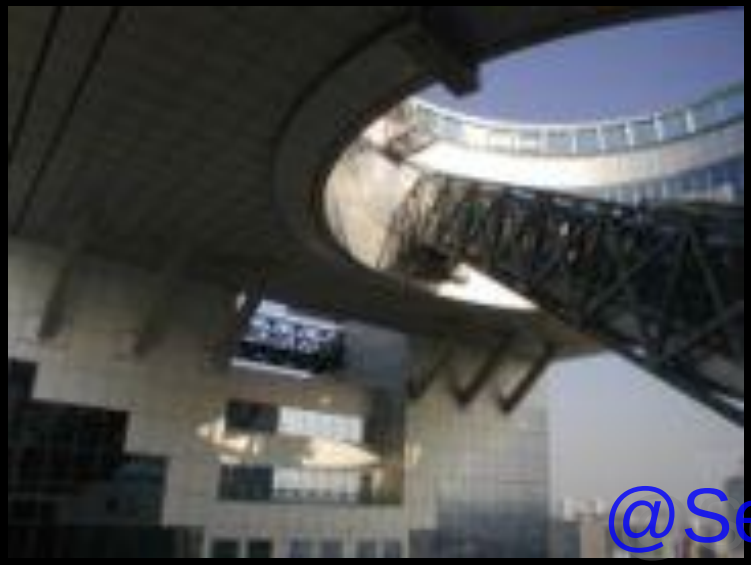

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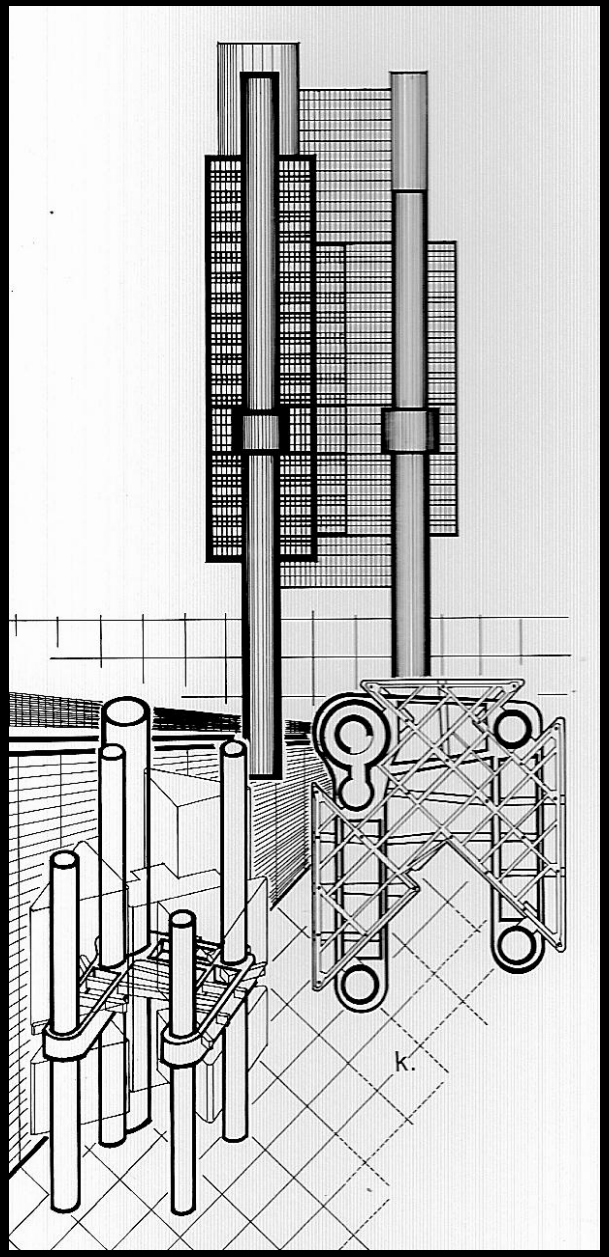

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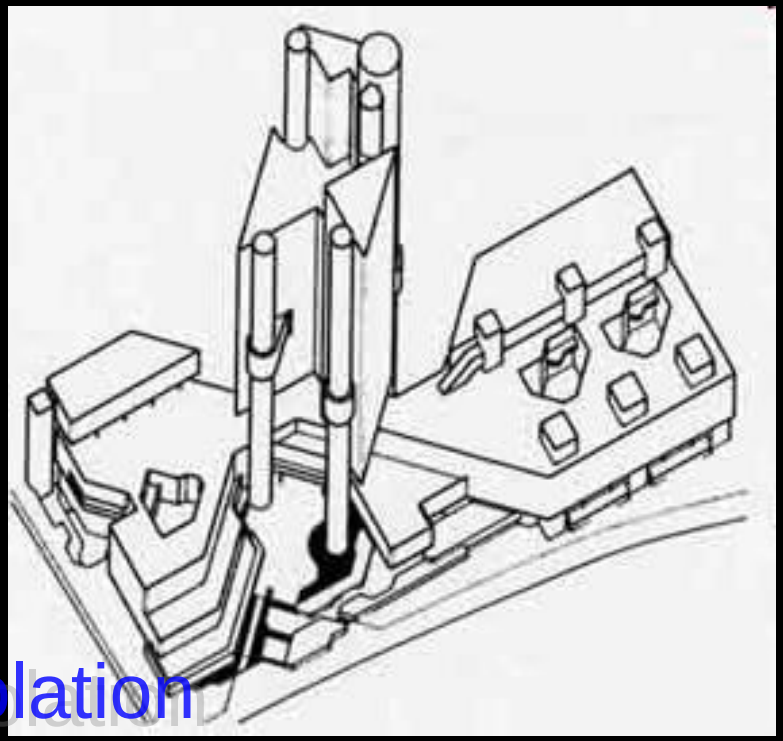
Hypobank (21 stories), Munich, Germany, 1981. *Walter and Bea Betz*



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The high-rise buildings in Hong Kong, Singapore and Jakarta by *Paul Rudolph* articulate the contact with the ground creating high-density spaces almost medieval like. Because the pedestrian spaces and linkages have been hooked up to the urban footpath system, they contribute significantly to the public life of the city.

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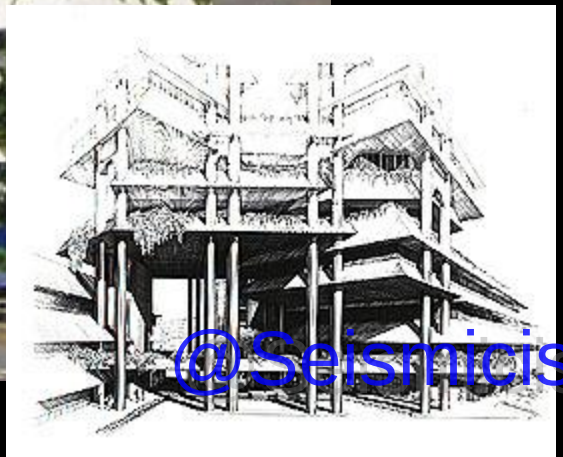

In the 26-story Dharmala Building (1988) in Jakarta Paul Rudolph used deep canted spandrel overhangs that recall the vernacular roof forms to spread shade and catch breezes in response to the climate. Three typical floors twist and turn as the building ascends to the top, a geometry that allows the fasceted perimeter of glass wall and spandrel to form balconies and terraces for alternating floors. The interplay between these elements and the paired columns that support them gives the building its unique and lively play of light, shadow, and silhouette. The base of the building is opened up with multilevels, vine-covered overhangs, terraces, canals, and waterfalls having the character of a village with all its ease of access and variety of spaces.

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The **Colonnade** (26 stories), Singapore, 2001, Paul Rudolph. Rudolph's distinctive style can be seen in the cantilevered volumes of concrete and glass arranged on a gridded system of tall structural columns, or "piloti". Random volumes are strategically located in an ordered system defined by the grid. The Colonnade exemplifies a high-rise typology that is both architecturally innovative and well-suited for the tropical climate through a combination of wide overhangs, sun shading devices and balconies which bring greenery into the spacious apartments.

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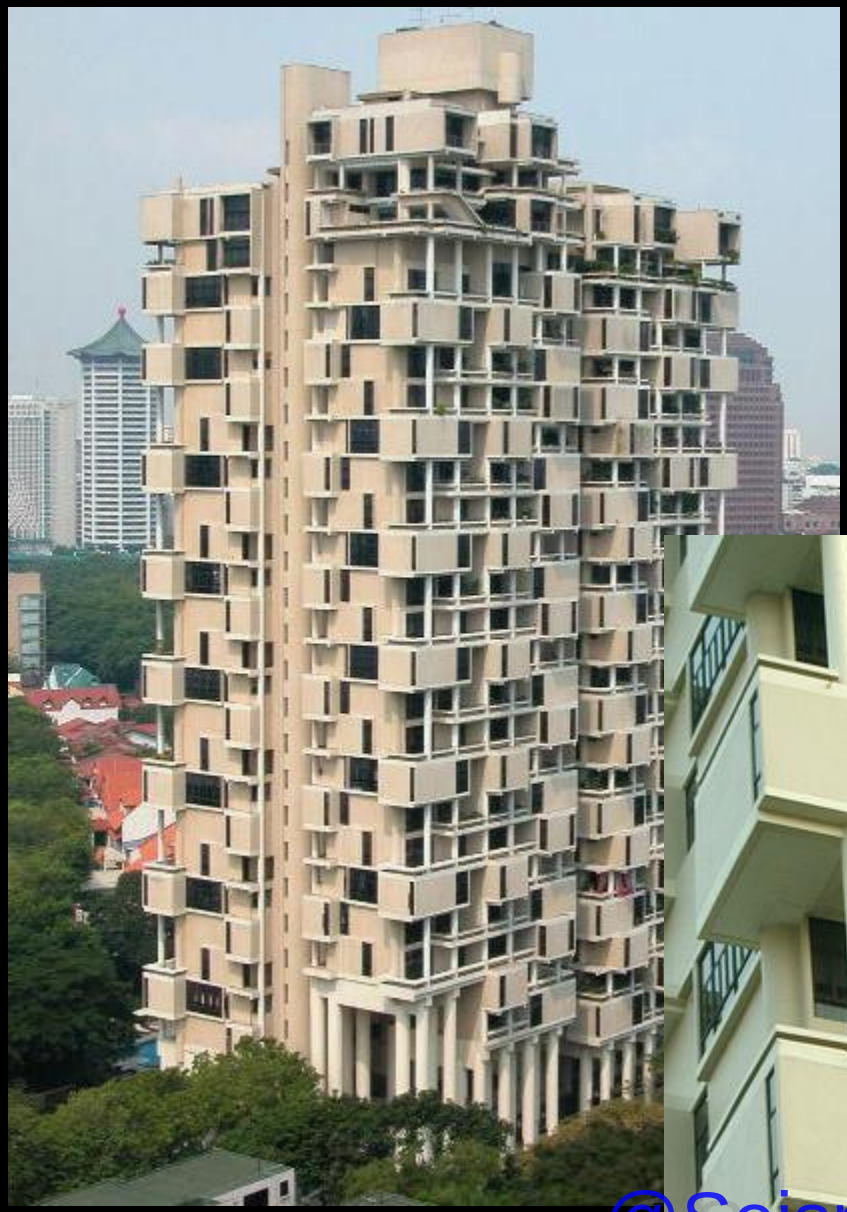

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The twin towers of the Lippo Center (1988) in Hong Kong are divided into three vertical segments to break the massive scale and become more dematerialized with the help of the skin that reflects Hong Kong ever changing light. They are joined for the first four floors only, to form at the lower levels a series of loggias, porches, terraces, stairways, and plazas. The massive support columns of the towers disappear into the tower masses at different heights.
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Credit Lyonnais Tower, Lille, France, 1994, *Christian de Portzamparc*: **free ground space through bridge action:** Building acts as 50-m span bridge to span across the railway station. Bridge and tower form an L-shape; tower is located adjacent to railway station. Oblique angles make the shape turn in various ways. Texture articulates lightness of mass.

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The **Information Box** is a temporary structure at the Potsdamer Platz in Berlin, Germany, 1995 - 2001, (*Schneider + Schumacher)*, it looks like a **container** sitting **on a forest of columns.** The container floats high above the ground and sits on the inclined exposed steel columns seggesting the building support. The window areas indicate large open inside spaces.

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Edo-Tokyo Museum, Tokyo, Japan, 1993, ***Kikutake Seikun Arch.***: the **building as beam on four pillars covering an outdoor plaza**. The building is a 7-level structure, where the lecture hall and service areas are below grade. We are reminded of the **visionary urban projects of the metabolists of the 1960s** with their design of urban mega-structures in the air. The building is 144 m long and 62.2 m high. It is lifted from the ground and sits on four 35 m tall shafts or core columns (1.8 m x 1.8 m x 15.8 m) that contain stairs and elevators and cantilevers 37m beyond the faces of the pillars. The 14 x 14 m H-shaped composite steel and reinforced concrete mega columns support the cantilever trusses. Bracing in the horizontal planes provides torsional resistance. The **bridge building** provides a large open space of 158.4 m long, 64.8 m wide, and 36.5 m high. The **building reflects a traditional roof shape of houses in old Japan.**

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Hirshorn Museum, Washington, 1974, Gordon Bunshaft/ SOM


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Everson Museum, Syracuse, NY, 1968, I. M. Pei
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Tokyo International Trade Fair Center, Japan, 1996, *Fumihiko Maki*: spatial A-frame bridge building allowing free public space below, another urban mega-structure celebrating the success of technology.

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Saibu Gas Museum, Fukuoka, Japan, 1989, *Shoei Yoh Arch*.: stayed structure liberates the building from the ground to minimize the contact. Four floors are suspended from central column clusters - inside atrium with sloping bridges - The design with its central trees articulates an almost poetic expression of industrial technology

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The Berlin Stock Exchange in Berlin, Germany (1999) by *Nicholas Grimshaw* reminds one of an armadillo. It expresses the building suspended from arches, i.e. the upper floors are suspended from arches on steel hangers so the bottom two stories are free of vertical structure to allow connection between life of building (inner streets and atria) and the city outside - arches allow flexible ground space. The huge atrium spaces bring daylight into the middle of the building. The final arches are exposed, free of the window walls behind, and covered in stainless steel sheets tensioned over curved formers by springs, so that the cladding remains crisp in all temperatures.

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Phaeno Science Center, 2005, Wolfsburg, Germany, Zaha Hadid

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B. INTERIOR/EXTERIOR ATRIA SPACES

the atrium as a continuation of urban space, the atrium as connector

From overall building shapes, I will proceed to the soft tissue of atria or open/ leftover space to allow urban space to penetrate into the building, to articulate the spirit of urban space from a communal point of view.

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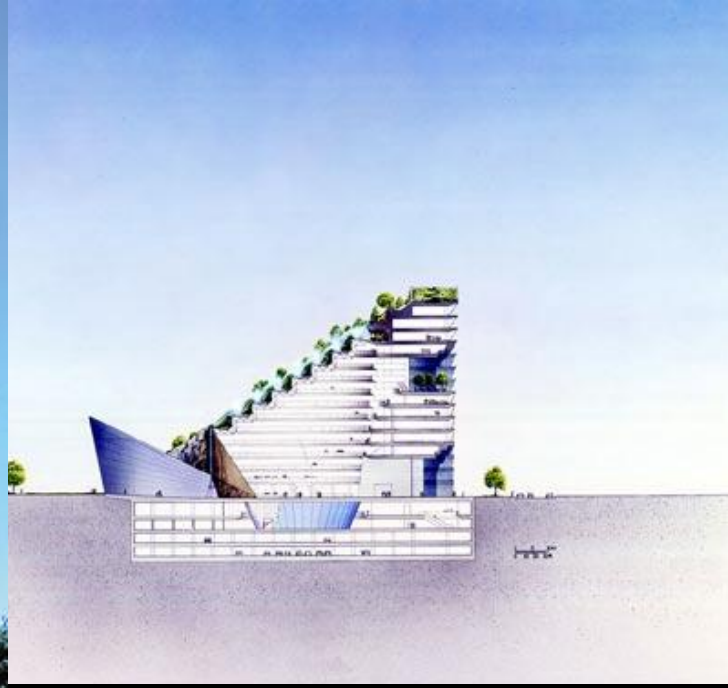

International Prefecture Hall, Fukuoka, Japan, 1996, ***Emilio Ambasz Arch.*: the green building** - garden city - the interaction of nature and building - building is internally broken up with atria - **terraced gardens** along the south side of the building: the building in a way **gives back to nature what it has taken away** - penetration into the building

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Nederlandse Gasunie, Groningen, Netherlands, 1994, *Alberts and Van Huut*: the penetration into the building - this 18-story building seems to be organically shaped, where the skin is constantly in movement under the change of sun and weather. The central foyer is spanned by a 3-story, 2-legged A-frame which carries the central column, around which the concrete stair case seems to be suspended and spirals upward thereby articulating the dynamics of space. This 3-dimensional structure forms the central vertical backbone of the building body. The 60-m glass wall in front appears almost like a waterfall; it is carried by an enormous steel space frame.

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Shopping Center Dalian, China

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Gund Hall, Graduate School of Design, Harvard University, 1972, John Andrews; the skylight roof structure is supported by nine 11-ft deep, 134-ft-span inclined steel pipe trusses spaced at 25 ft apart. The primary trusses are connected by smaller ones that carry the roof panels and glazing.

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Shopping streets in Wolfsburg and Bauzen, Germany

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Merzedes-Benz Zentrale, Berlin, 2000,
Lamm, Weber, Donath und Partner

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Deutsche-Med, Rostock, 2004, Helmut Jahn, Werner Sobek

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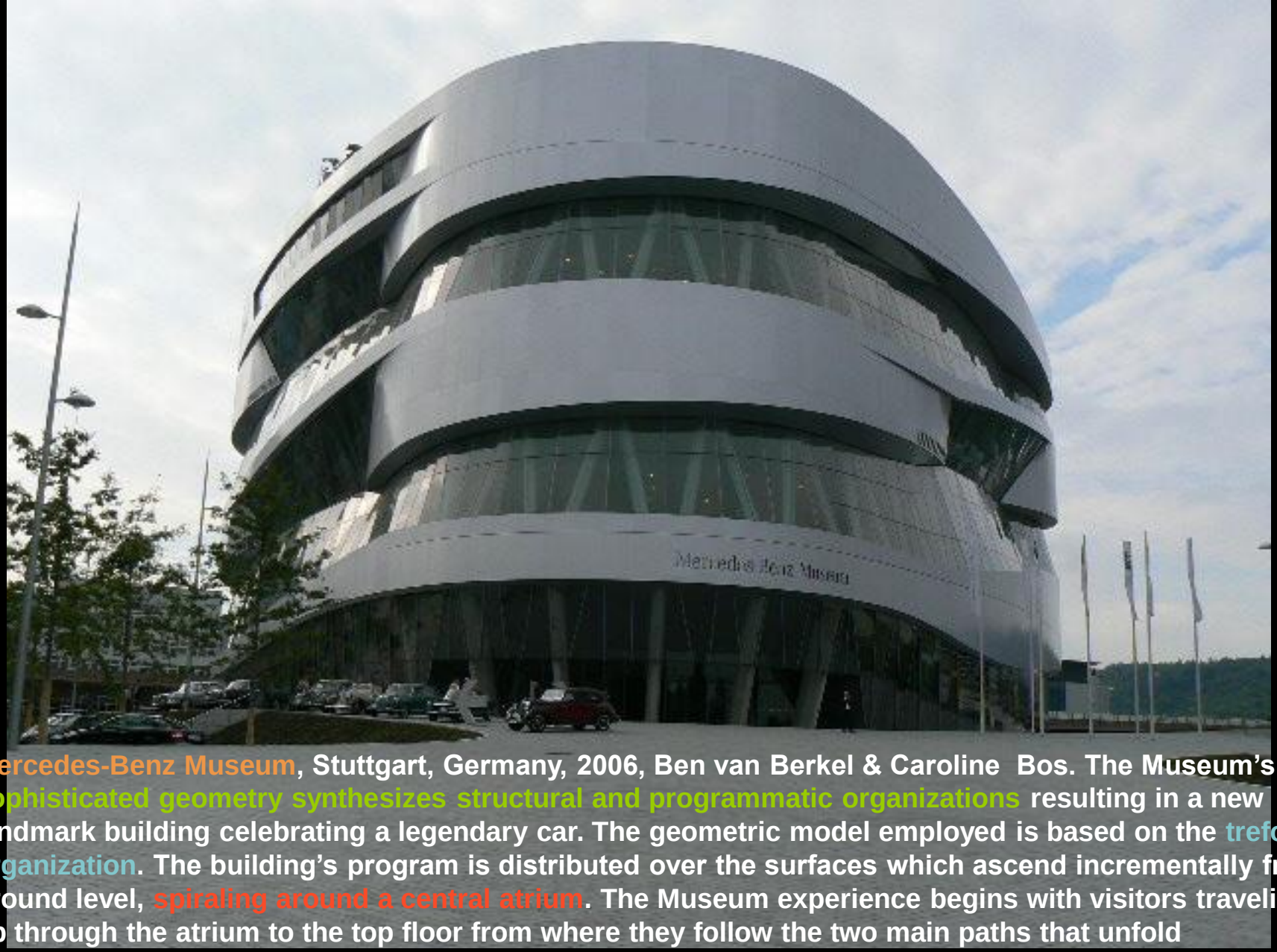

Mercedes-Benz Museum, Stuttgart, Germany, 2006, Ben van Berkel & Caroline Bos. The Museum's sophisticated geometry synthesizes structural and programmatic organizations resulting in a new landmark building celebrating a legendary car. The geometric model employed is based on the trefoil organization. The building's program is distributed over the surfaces which ascend incrementally from ground level, spiraling around a central atrium. The Museum experience begins with visitors traveling up through the atrium to the top floor from where they follow the two main paths that unfold chronologically as they descend through the building. The two main trajectories, one being the car and truck collection and the other consisting of historical displays called the Legend rooms, spiral downwards on the perimeter of the display platforms, intersecting with each other at several points allowing the visitor to change routes.

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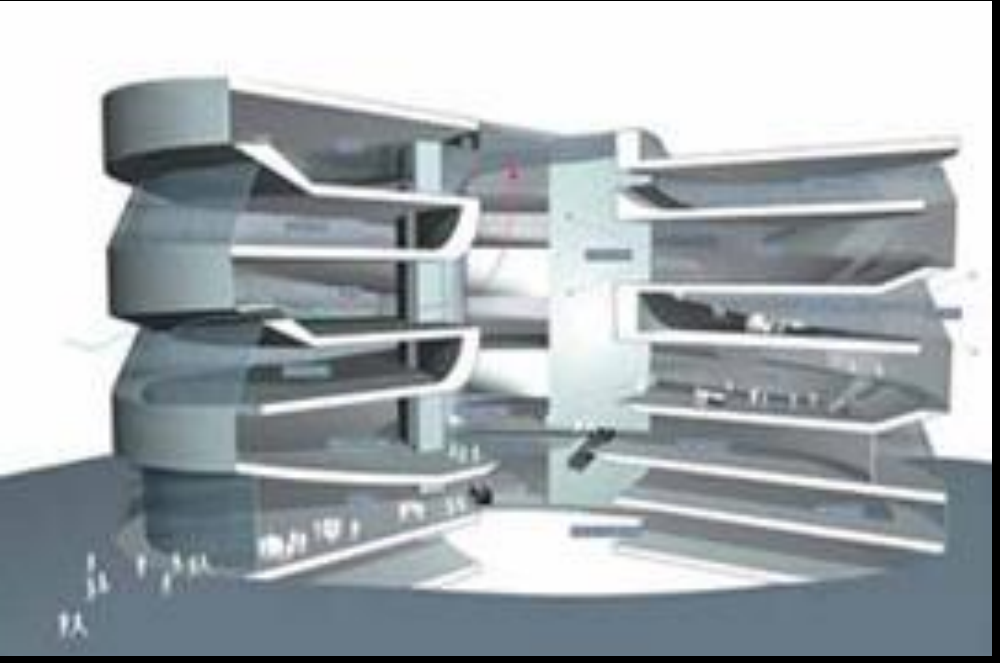

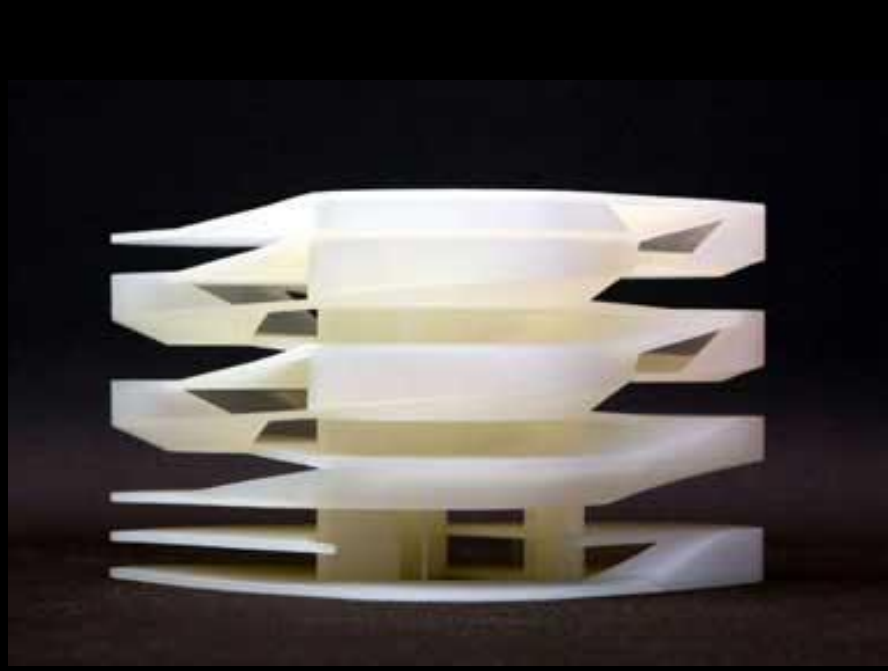

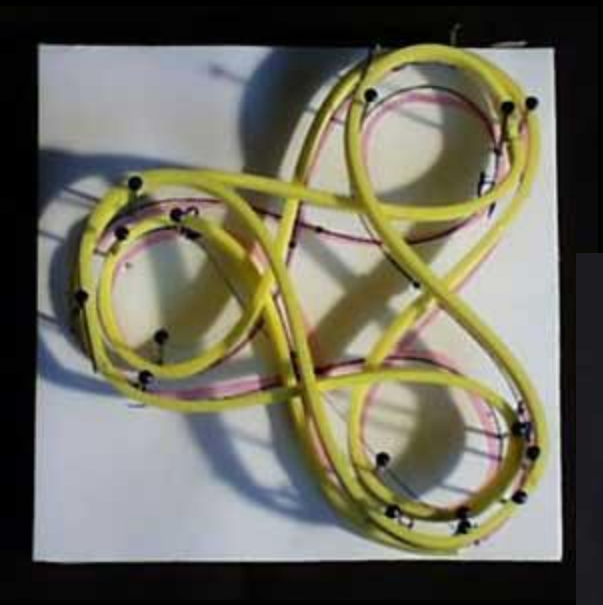

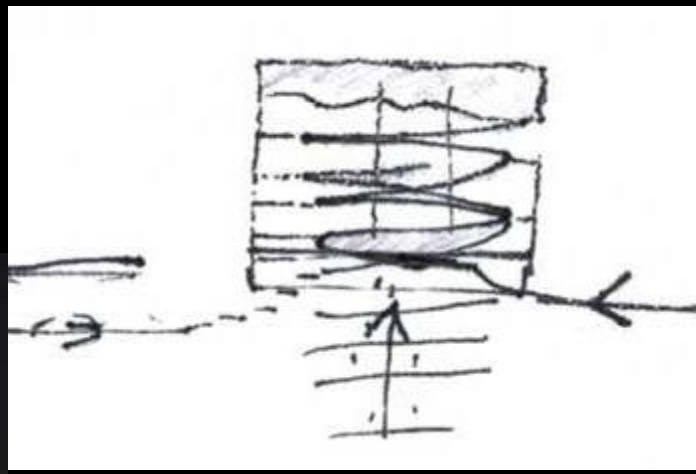

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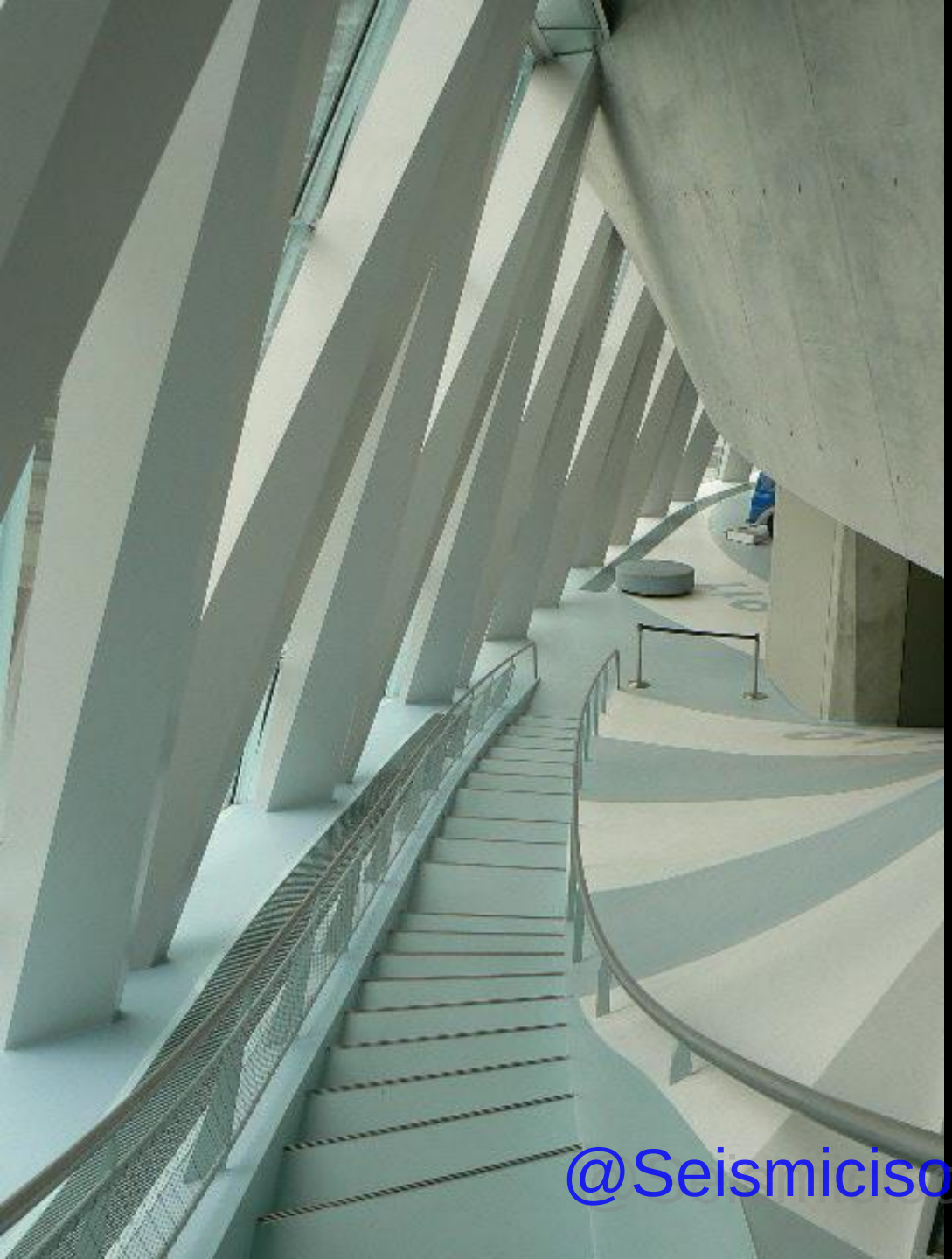

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Kyoto JR Station, Kyoto, Japan, 1998, *Hiroshi Hara Arch.*: the urban mega-atrium. The building has the scale of a horizontal skyscraper - it forms an urban mega-complex. The urban landscape includes not only the huge complex of the station, but also a department store, hotel, cultural center, shopping center, etc. The central concourse or atrium is 470 m long, 27 m wide, and 60 m high. It is covered by a large glass canopy that is supported by a space-frame. This space acts a gateway to the city as real mega-connection.

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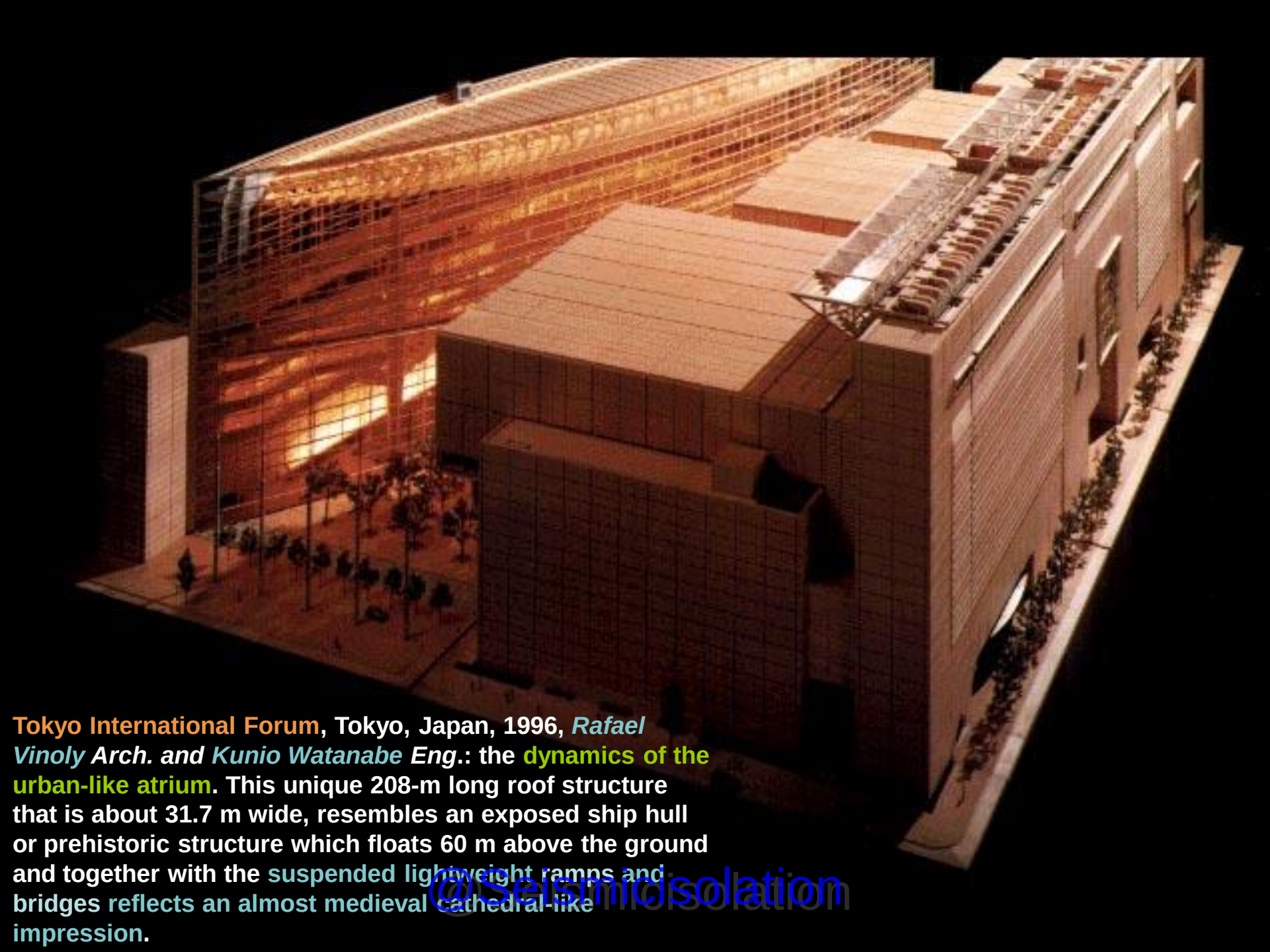

Tokyo International Forum, Tokyo, Japan, 1996, ***Rafael Vinoly*** *Arch. and* ***Kunio Watanabe*** *Eng*.: the **dynamics of the urban-like atrium**. This unique 208-m long roof structure that is about 31.7 m wide, resembles an exposed ship hull or prehistoric structure which floats 60 m above the ground and together with the **suspended lightweight ramps and bridges reflects an almost medieval cathedral-like impression**.

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The **parabolic spatial roof arch structure** with its 42-m cantilevers is supported on only two monumental conical concrete-filled steel pipe columns spaced at 124 m. The columns taper from a maximum width of 4.5 m at roughly 2/3 of their height to 1.3 m at their bases and capitals, and they are tied at the 4th and 7th floors into the structure for reasons of lateral stability.

The glass walls are supported laterally by 2.6-m deep free-standing vertical cable trusses which also act as tie-downs for the spatial roof truss.

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The parabolic spatial arch structure with its 42-m cantilevers is supported on only two monumental conical concrete-filled steel pipe columns spaced at 124 m. The main span of the roof structure (which is about 12 m deep at midspan) consists of a pair of 1.2 m Φ tubular inclined steel arches that span 124 m between the columns and curve up in half-arches in the cantilever portion. A series of 16

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The main span of the roof structure which is about of **12-m depth** at mid-span, consists of a pair of 1.2- m φ tubular **inclined steel arches** that **span 124 m** between the columns and curve up in half-arches in the cantilever portion. A series of **16 tension rods inversely curved to the compression arches** complete the beam action. **The layout of the compression arches and tension rods that follow directly the bending moment diagram under gravity load action of a beam with double cantilevers**, are separated by **56 curved steel arch-ribs** which also support the roof beams. The glass walls are supported laterally by 2.6-m deep free-standing vertical cable trusses which also act as tie-downs for the spatial roof truss.

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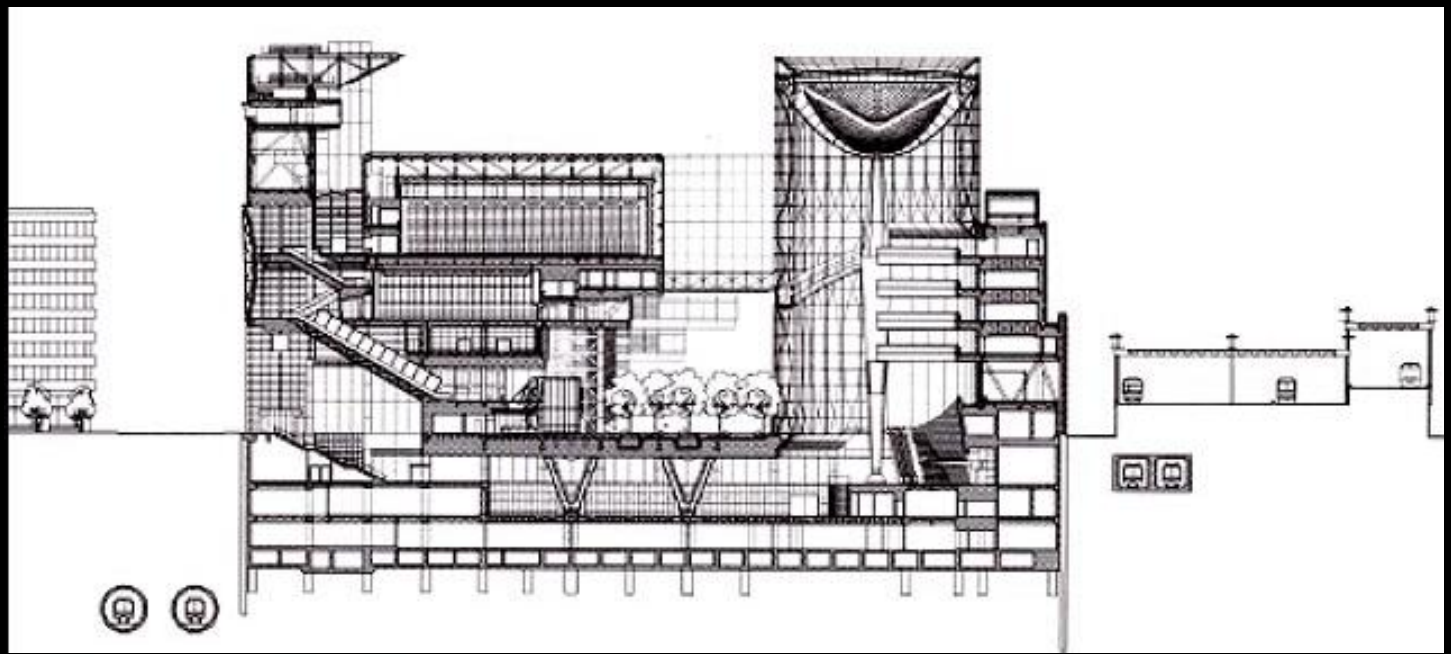

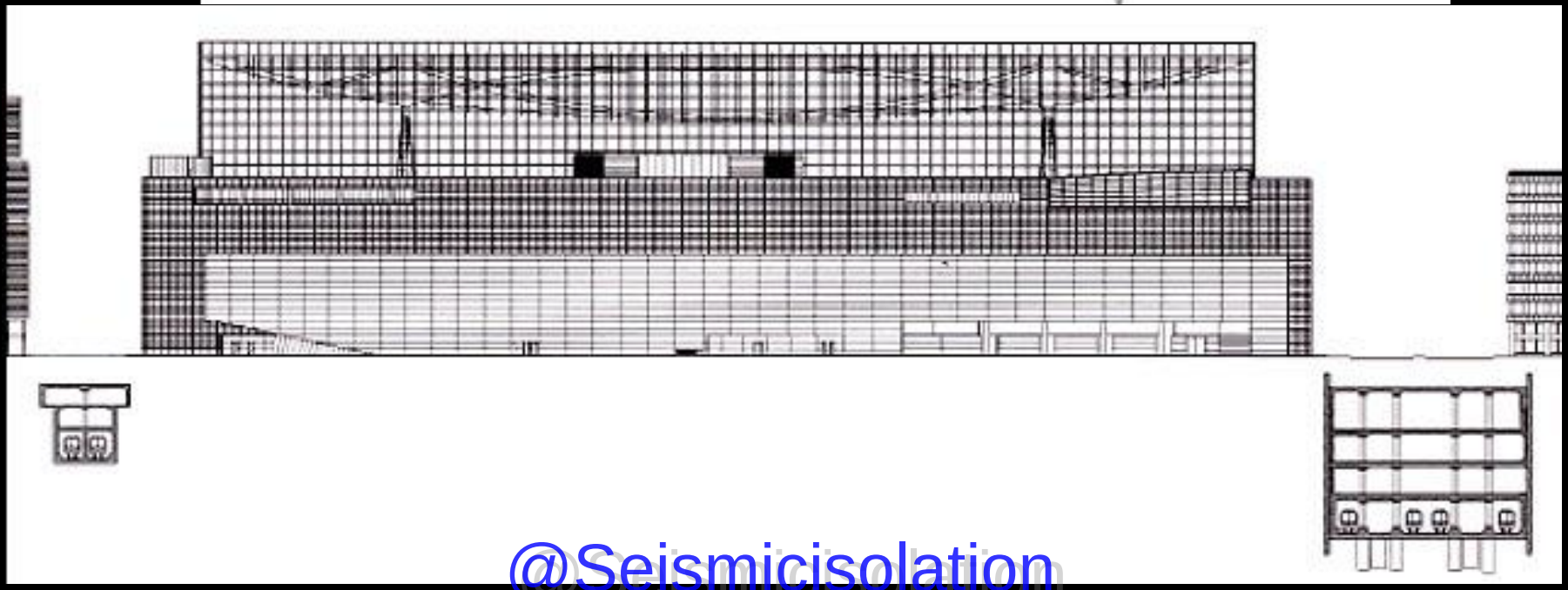

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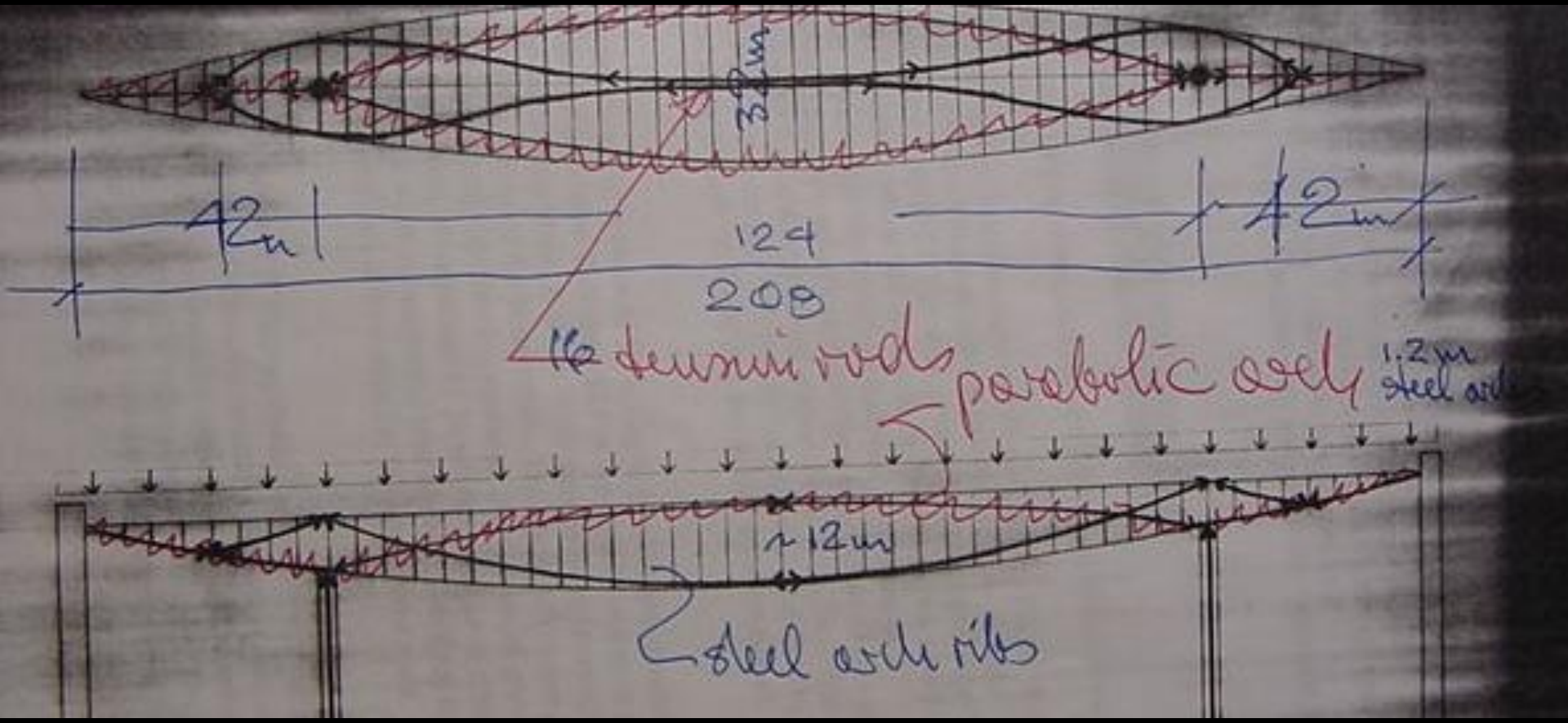

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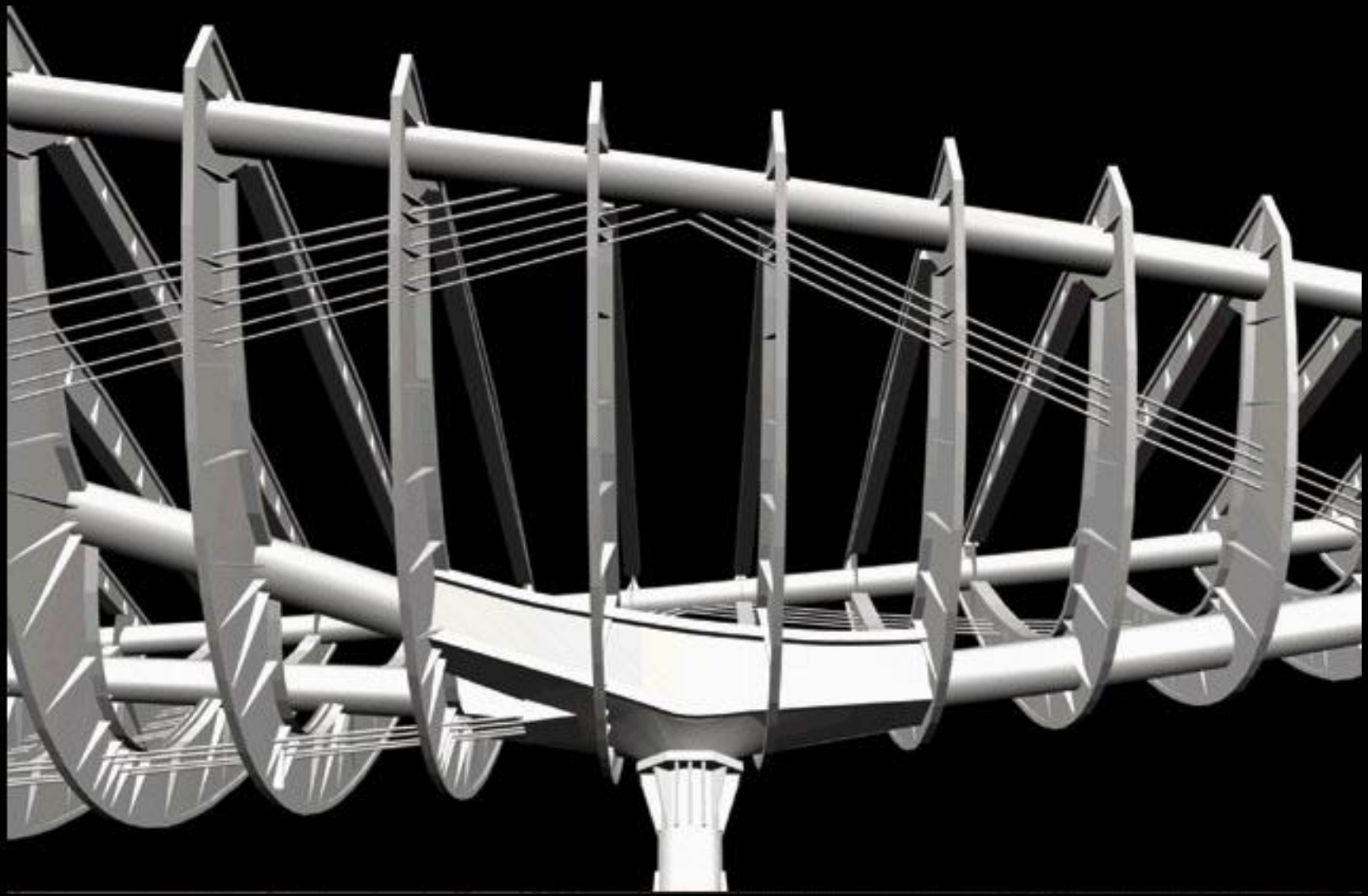

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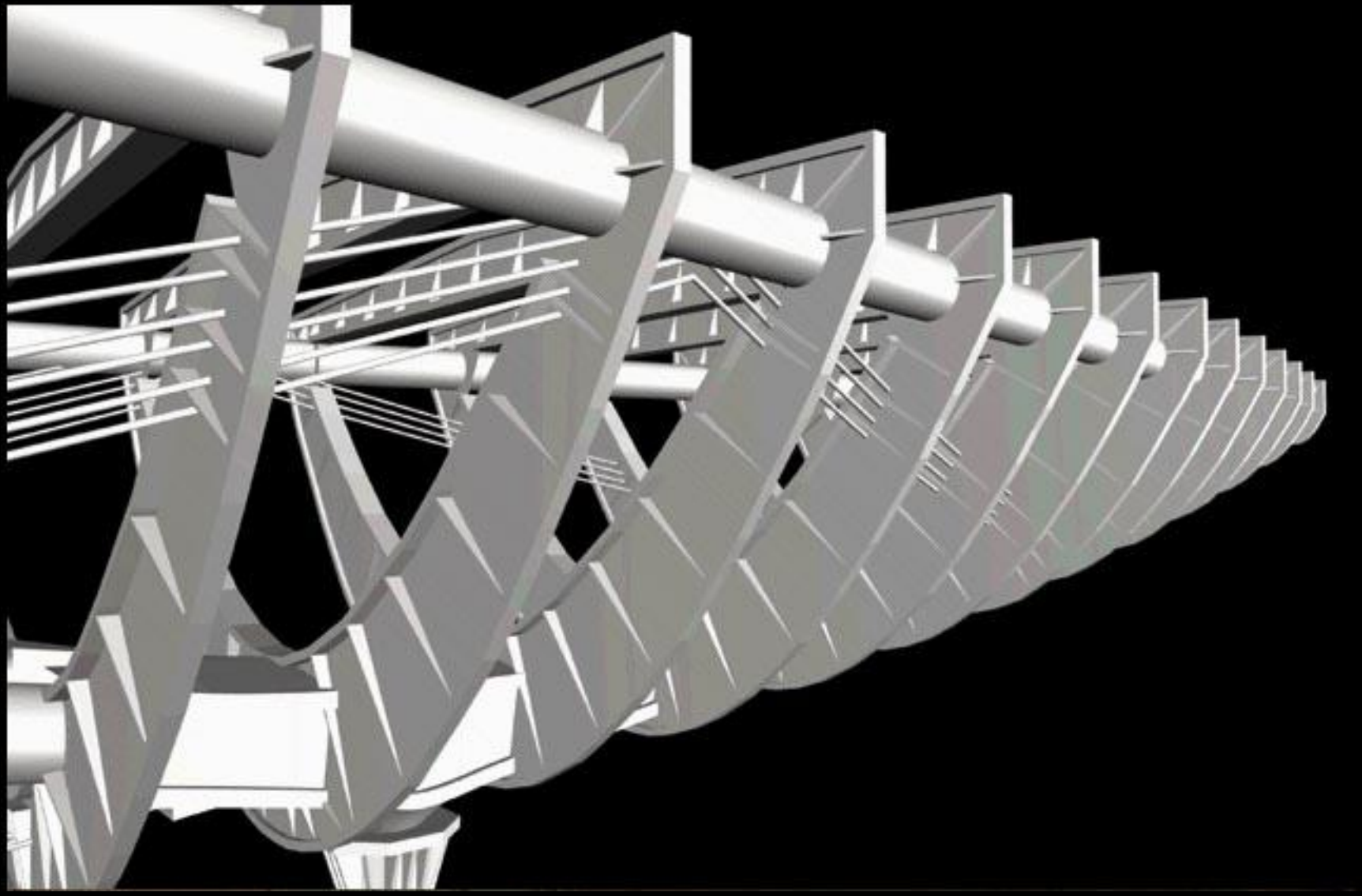

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Munich Airport Center, Munich, Germany, 1997, *Helmut Jahn Arch.*: the open public atrium as transition, building blocks form walled boundaries to a square which is covered by a transparent roof hanging from stayed cables, with a minimum of structure that gives a strong identity to space - the new technology features construction with its own aesthetics reflecting a play between artistic, architectural mathematical, and engineering worlds.

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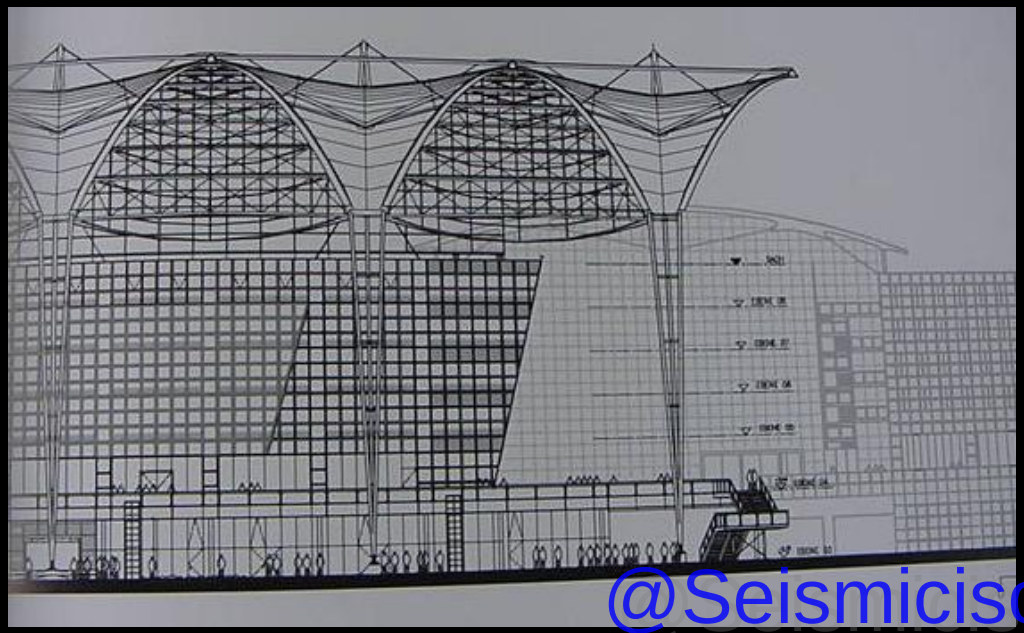

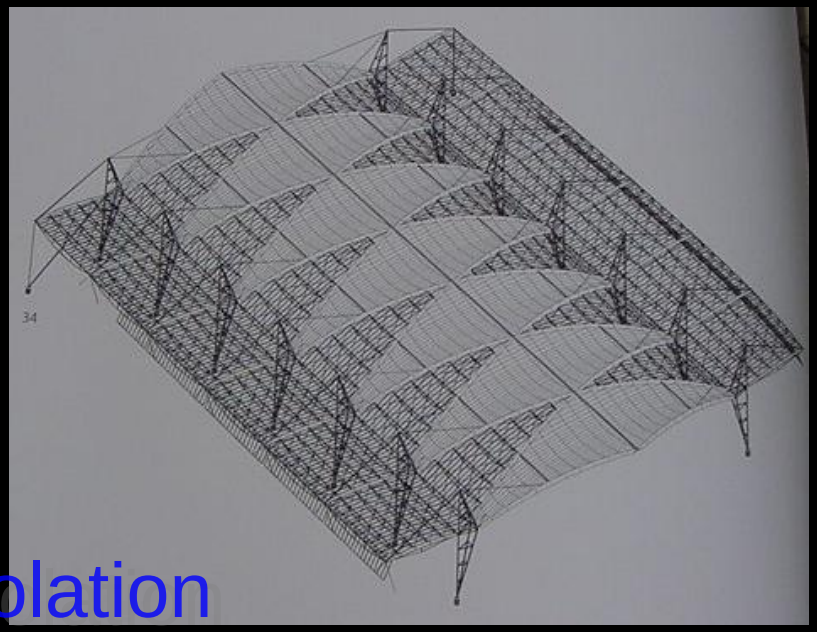

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Kempinski Hotel, Munich, Germany, 1997, *H. Jahn/Schlaich*: the elegance and lightness of the the 40-m (135-ft) span glass and steel lattice roof is articulated through the transparency of roof skin and the almost non-existence of the **diagonal arches which are cable- supported by a single post at their intersection at center span**. This new technology features construction with its own aesthetics reflecting a play between artistic, architectural mathematical, and engineering worlds. The depth of the box arches is reduced by the central compression strut (flying column) carried by the suspended tension rods. The arches, in turn, are supported by tubular trusses on each side, which separate the roof from the buildings.

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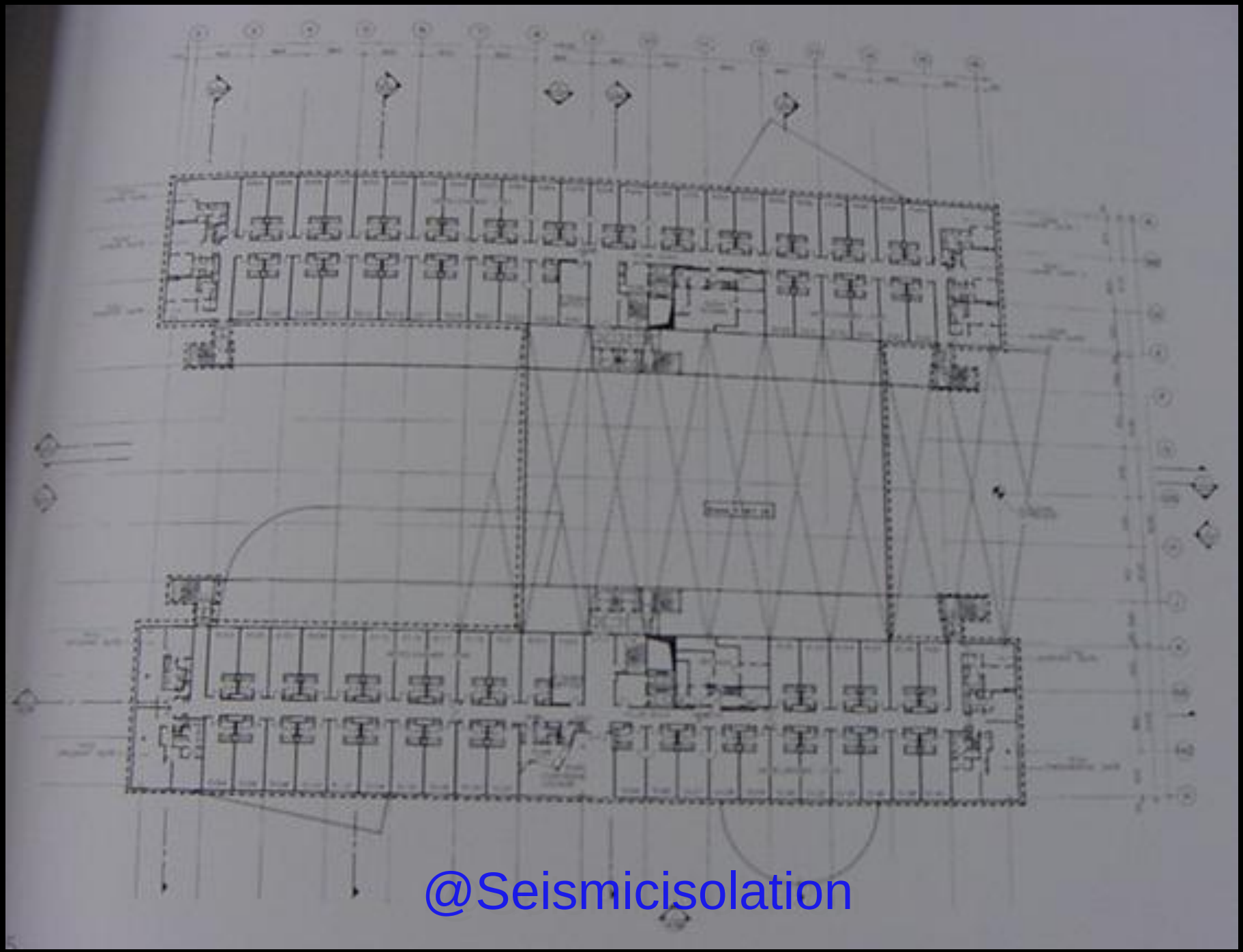
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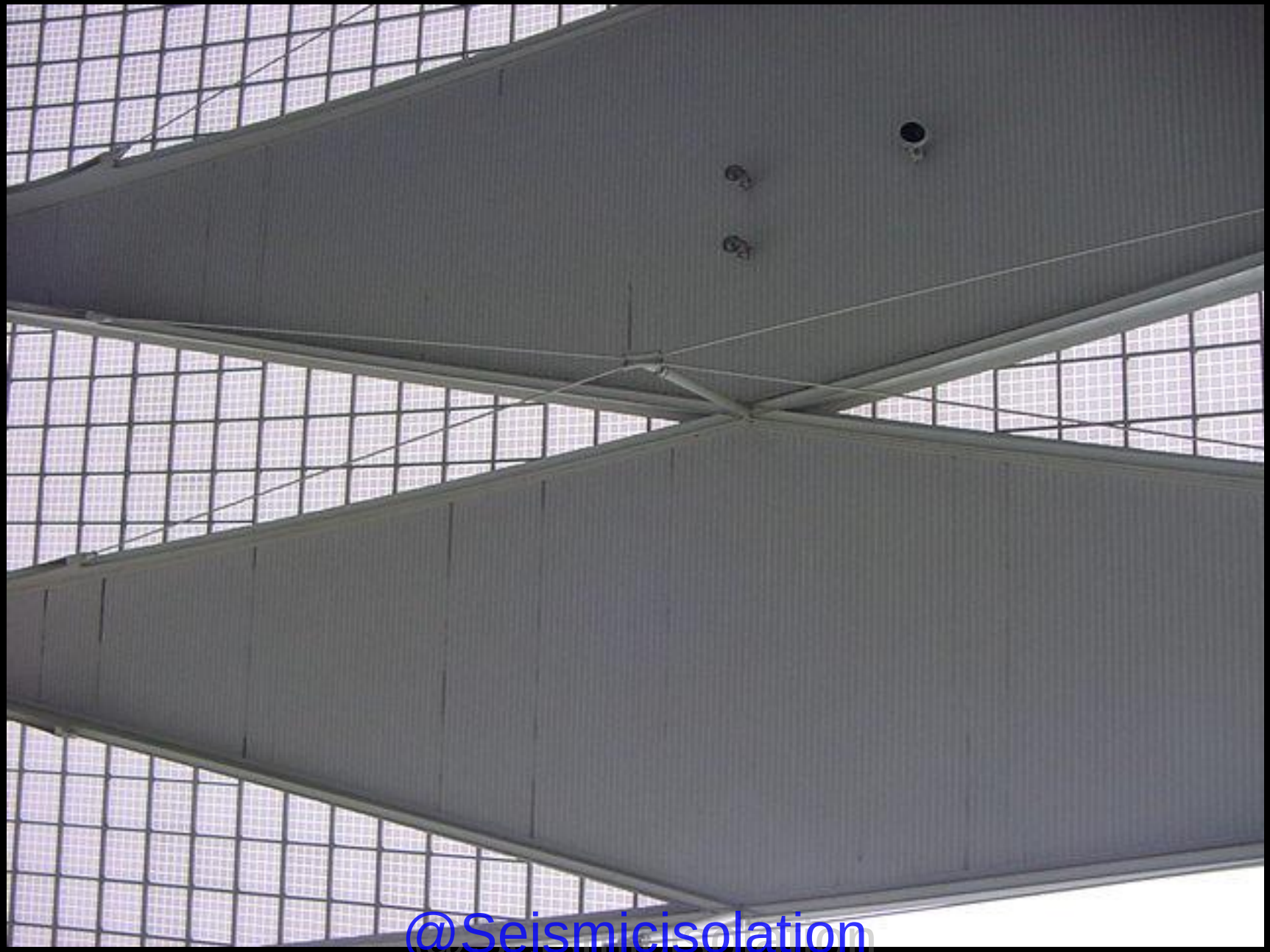
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Debis Theater, Marlene Dietrich Platz, Berlin, 1998, Germany, Renzo Piano

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Integrated urban buildings, Linkstr. Potsdamer Platz, Richard Rogers, Berlin, 1998


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Petersbogen shopping center, Leipzig, 2001, HPP Hentrich-Petschnigg

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Holocaust Memorial Museum, Washington, 1993, James Ingo Freed

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Sony Center, Potzdamer Platz, Berlin, 2000, Helmut Jahn Arch., Ove Arup USA Struct. Eng

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Reichstag, Berlin, Germany, (1999, Norman Foster Arch. Leonhardt & Andrae Struct. Eng.): The 25-m high steel glass dome, 40 m in diameter, consists of 24 slender ribs made of steel sections and plates to minimize their dimensions as to maximize the effect of transparency. An inverted cone, fully clad with adjustable mirrors, literally throws light into the parliament hall at ground level. Against the curved glass skin, two ramps above each other wind their way to an outlook platform at the top.

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UFA Palace, Dresden, Germany (German Architecture Price 1999), **COOP Himmelblau**

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C. THE CONNECTION TO THE UNDERGROUND

The next part addresses briefly the structure that connects the outdoor space to underground facilities such as malls, parking garages, subways, etc

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Underground shopping-Xidan Beidajie, Xichang'an Jie, Beijing

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Pyramid at the Louvre, Paris, France, 1989, *I.M. Pei/Roger Nicolet*: minimal interference with space through geometry and transparency - connection to the underground mall. Here, stainless steel bowstring trusses form a two-way diagrid structure on each plane of the roof. In other words, 16 crossed beams of different lengths are placed parallel to the diagonal edges. By extending the truss struts, the aluminum mullion frame is supported. To prevent the outward thrust of the pyramid and to stabilize and stiffen the shape, the four faces are tied together by 16 horizontal counter cables or belts in a third layer thereby bracing and stressing the diamond-shape network. In their search for visual lightness the designers developed a difficult layout of structure which reflects a celebration of structural complexity and still achieving the goal of transparency and an almost immaterial lightness with its thin member fabric.

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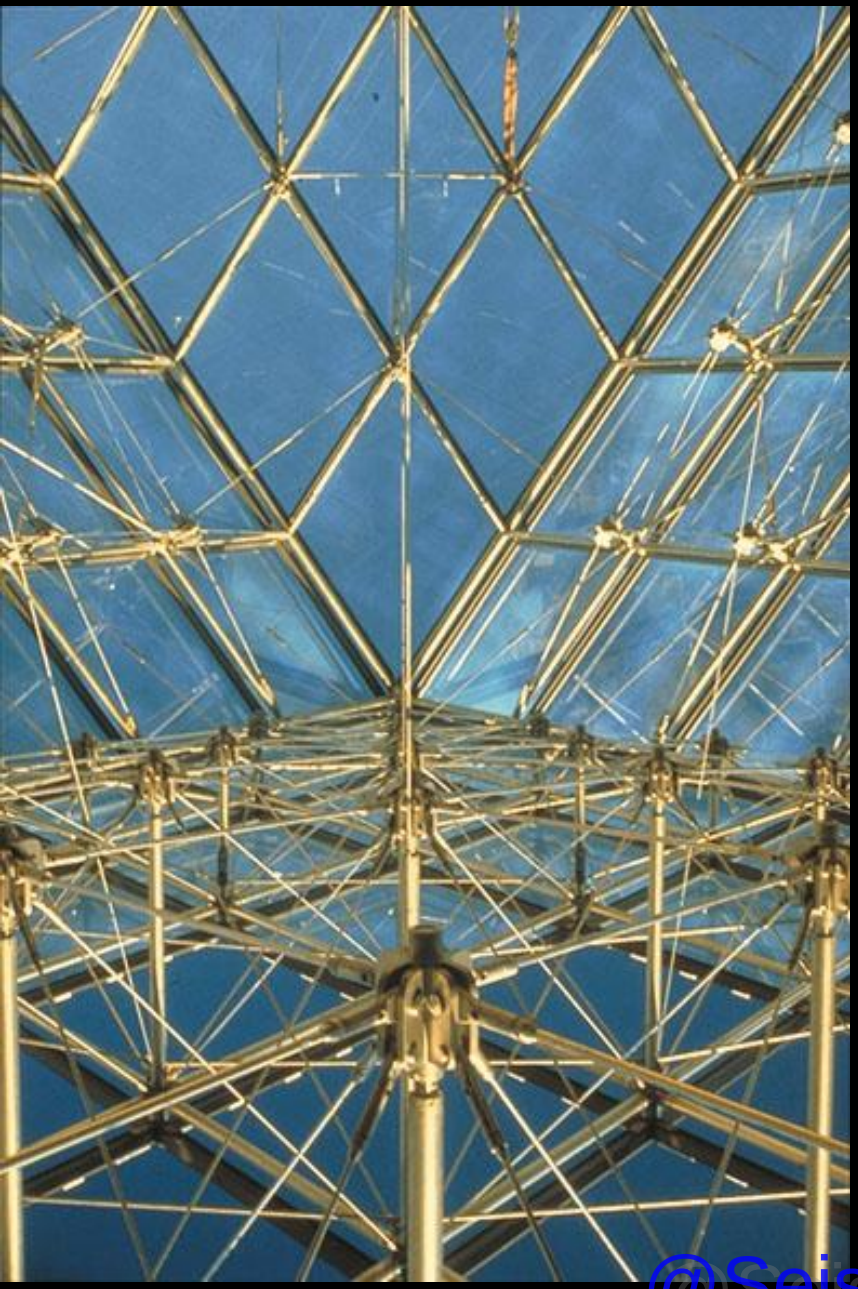

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La Grande Arche, Paris, 1989, *Johan Otto von Sprechelsen / Peter Rice* for the canopy: One large volume hollowed out through a gateway, where the composition is strongly unified and monolithic in the modernistic tradition. The floating, tensile membrane over the base reflects the lightness and spontaneity of the cloud and contrasts the perfect geometry of the giant (110 m hollow) cube thereby introducing a human scale besides providing shelter and improving wind conditions. Also the free-standing 92-m high cable-braced steel lattice elevator tower , which is anchored laterally to the arch with horizontal guyed columns, articulates urban space.

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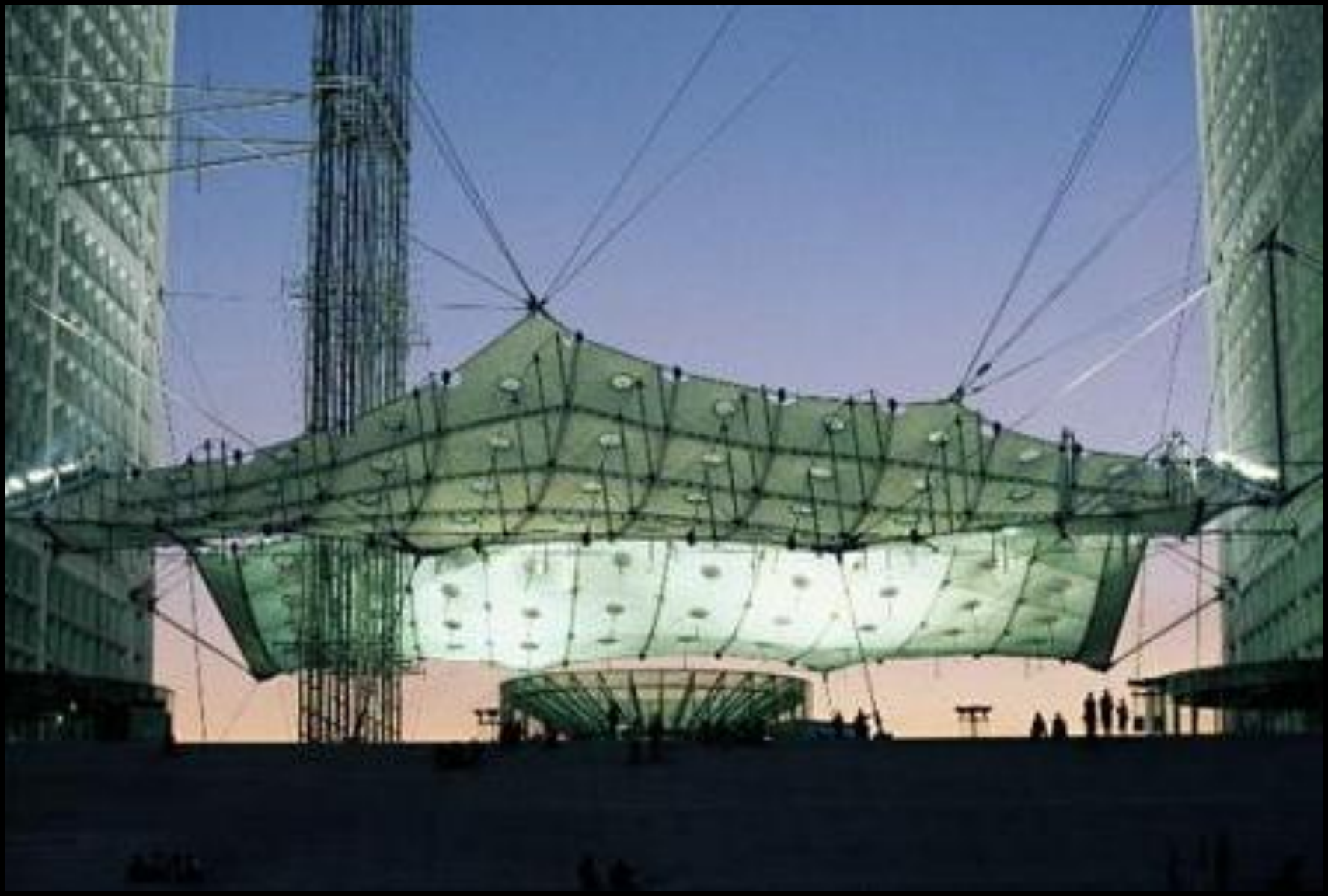

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DG Bank, Berlin, Germany 2001,
Frank Gehry and Schlaich

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D. BUILDING OPENS UP AND REACHES INTO URBAN SPACE

A more personal and smaller scale is demonstrated by the building edge that opens up to interact with the urban context

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Collezione, Tokyo, 1990, *Tadao Ando*: small urban, commercial complex of mixed use links outside streets on 3 sides with inside courtyards - intricate entryways, passages, various stairways, and natural light and shadow all evoke a poetic dimension and provide an urban experience.

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Auditorium of the Technical University, Munich, Germany: permeability, an almost fragmented structure; the texture of structure causes space dynamics.


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Auditorium of Kagoshima University, Kagoshima, Japan, 1994, ***Tadao Ando***

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Federal Chancellery building, Berlin, 2001, Axel Schultes

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Vitra Museum, Weil am Rhein, Germany, 1989, *Frank O. Gehry*: complex building bodies and irrational arrangement of shapes together with distorted geometry and construction, cause an exciting space interaction

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Vitra Fire Station, Weil am Rhein, Germany, 1993, *Zaha Hadid Arch*.,: explosive forms connect to the context in a very dynamic way.

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Pop Museum, Rotterdam, The Netherlands, 1992, ***Rem Koolhaas Arch.***: a **field of tension between building and exterior space**. A sloped angled street-like path cuts through the middle of the building, (bisects the building) and together with the slanted side walls and columns that have to do with **space articulation** rather than support, cause **urban tension**. Koolhaas has no interest in beautiful details or how different materials meet, or the expression of structural action, in contrary, he seems to express exactly the opposite of what is expected expressing an almost **punk-like culture**.

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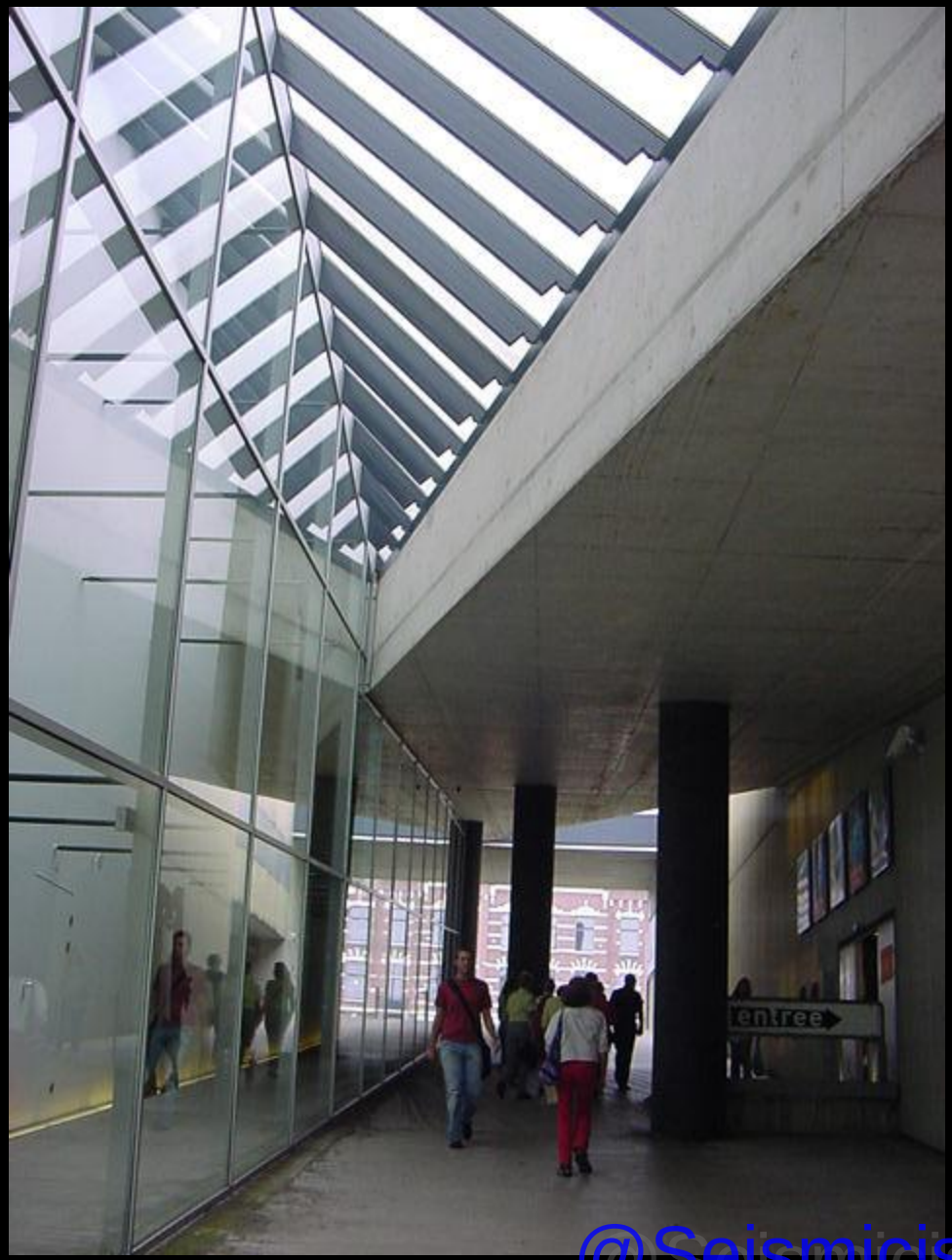

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The Netherlands Architectural Institute, Rotterdam, 1993, *Jo Coenen Arch.*: The building complex is divided into several sections suggesting its continuation into urban context. The concrete skeleton dominates the image supplemented by steel and glass. The main glazed structure appears to be suspended, and allows the concrete load-bearing structure behind to be seen. The high, free-standing support pillars and the wide cantilevered roof appear more in a symbolic manner rather as support systems. The building complex clearly articulates its presence to the context.

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Art Museum, Wolfsburg, Germany, 1993, ***Peter Schweger Arch.*: building floats into space**. The building is laid out on an approximately 27 x 27 ft (8.10 x 8.10 m) grid and is further subdivided into 4'5" square bays. The plaza seems to reach/move into the building - the building is naturally grown allowing the interaction of building and urban space, where the diagonal access ramps/stairs forming the connecting element (i.e. entrance at building corner). The interaction of the building is especially articulated by the thin cantilevering roof at 62 ft height carried by the slender columns. The building gives a feeling of openness and permeability. The clarity of construction, transparency, lightness, quality of detail all transmit a sense of clarity (no confusion as some of the cases).

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City Museum, Bonn, Germany, 1992, *Axel Schultes Arch.*: the house of light – the curved flat roof sits on a forest of irregularly arranged columns - The grouped columns seem almost to generate a human quality in articulating space rather than supporting the roof, the columns seem to penetrate through the roof.

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Ningbo downtown, 2002,
Qingyun Ma

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Sichuan University, Chengdu, College for Basic Studies (2002)

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Library, Wanli University, Ningbo

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Housing, Berlin, Herman Herzberger


26 9 2001
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Guggenheim Museum, Bilbao, 1997, Frank Gehry

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E. THE BRIDGE AS CONNECTING ELEMENT BETWEEN BUILDING AND OUTDOOR SPACE

The next group of examples addresses bridges and stairs (possibly seen as large details) as connecting elements of outdoor and indoor space that includes articulation of indoor space by causing special events that give meaning.

- **Museum of Science and Technology, Parc de la Villette, Paris, 1986, *Fainsilber/Rice*:The bridge seems to protrude into the building between the glass houses that form almost 10-story buildings. The glass walls of the three monumental greenhouses attached to the south side open the building up to the outside. The 32 x 32 m square tower-like structures are 15 m deep. The 16 approximately 8-m square modules which form the basis for the primary stainless steel tubular frame which is laterally supported by cable trusses as are the 2-m square glass sheets by a secondary system of horizontal cable beams.**

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Grand Palais, Lille, France, 1995, ***Rem Koolhaas/Ove Arup***: **stairs as an important urban event** The 300-m long, oval-shaped building is divided into concert hall, conference center, and exhibition halls. Koolhaas uses exposed concrete surfaces and a great deal of plywood and plastic to reduce the costs. **The combination of unusual materials and unexpected angles seem to reflect an *antipoetic* mood**. Again, **structure takes the place of language and reflects only the illusion of support** (e.g. arch vs columns, hanging columns or tension ties to reduce bending moment at center span).

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Dokumenta Urbana, Kassel, 1984, Otto Seidle

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Centraal Beheer Insurance Company, Apeldoorn, The Netherlands, 1972, Herman Herzberger

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Pole dwellings, Rotterdam, 1984, ***Piet Blom Arch.***: the bridge across the arcade Stairs as façade structure,

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Petersbogen shopping center, Leipzig, 2001, HPP Hentrich-Petschnigg

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Ningbo downtown, 2002,
Qingyun Ma

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China University of Mining and Technology, Xuzhou

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Downtown Bangkok, Thailand

Downtown Bangkok, Thailand

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Potsdammer Platz, Berlin, 1998, Richard Rogers

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Potsdammer Platz, Berlin, 1998, Richard Rogers

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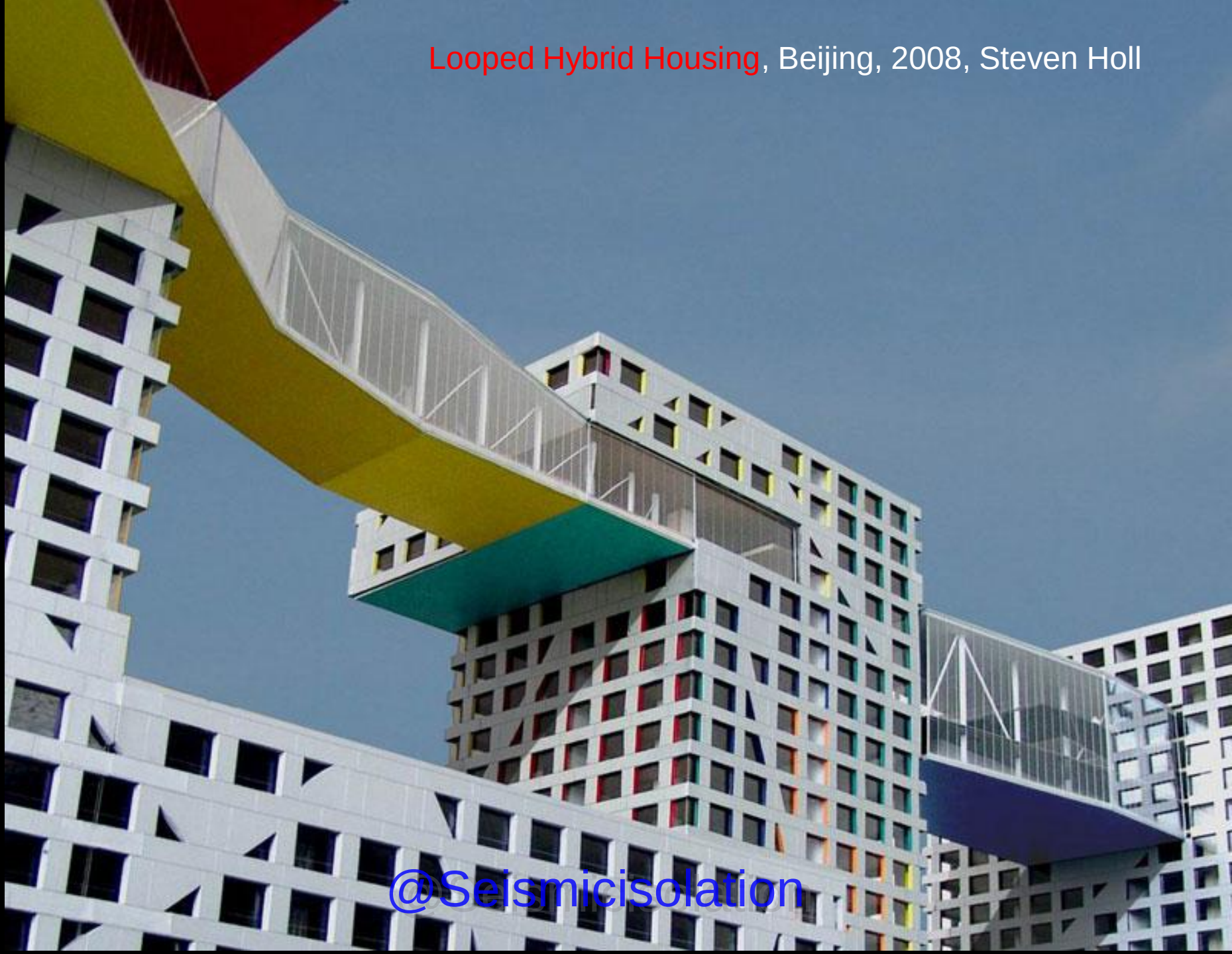
Looped Hybrid Housing, Beijing, 2008, Steven Holl
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F. WALL TREATMENT - TEXTURE

Next are shown some examples that exemplify the interaction of outdoor and indoor space through wall treatment: the transparent skin, the mullion structure (e.g. cable members) as a special event, the relationship of column to solid wall, and the fragmentation of the wall.

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Dresdner Bank, Verwaltungszentrum, Leipzig, 1997, Engel und Zimmermann Arch.

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The Luxemourg Philharmonie, 2007, Christian de Portzamparc

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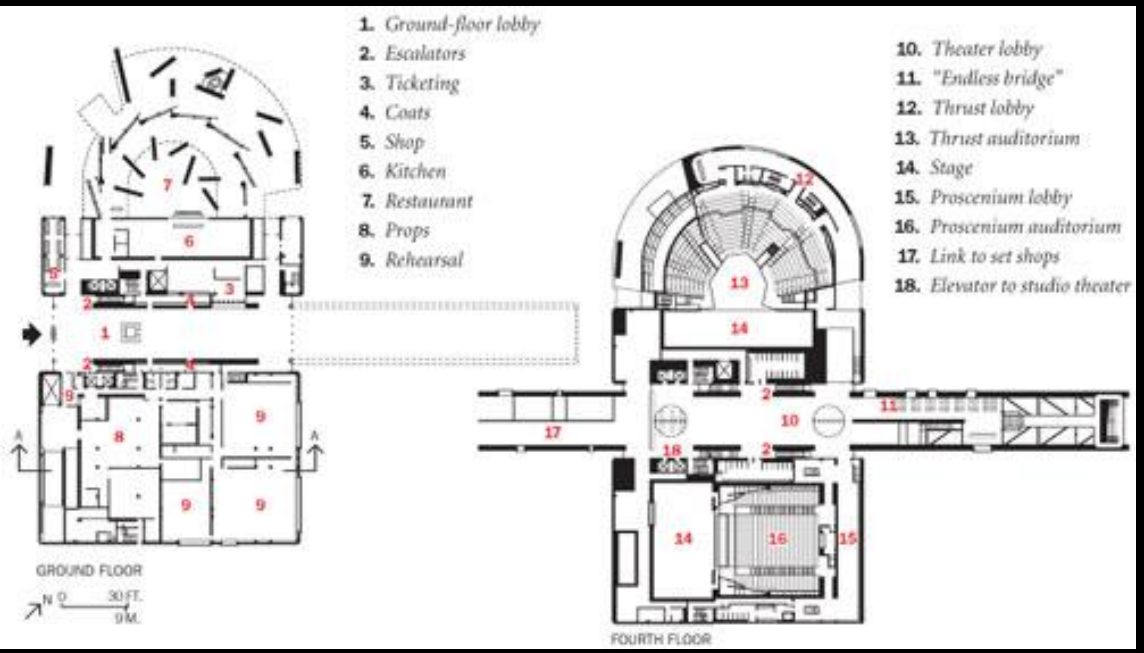

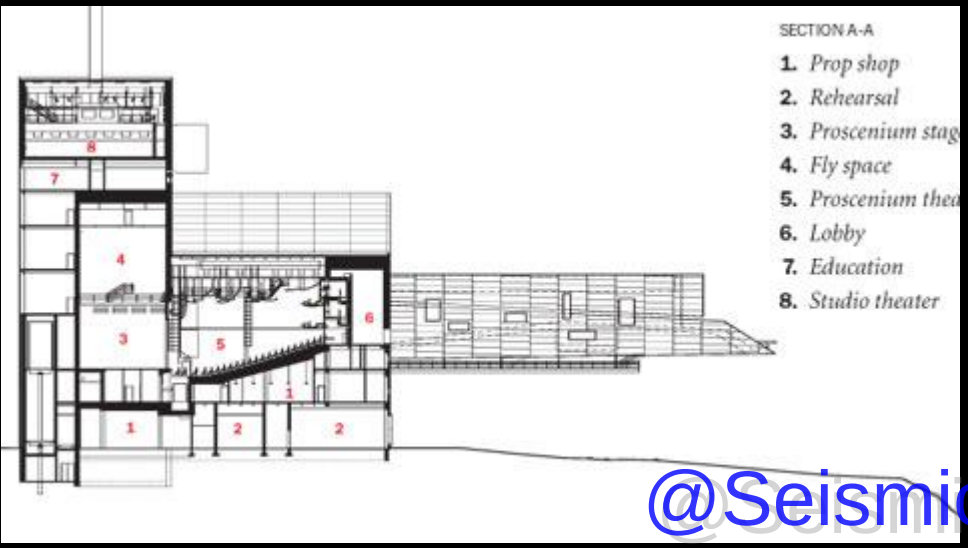

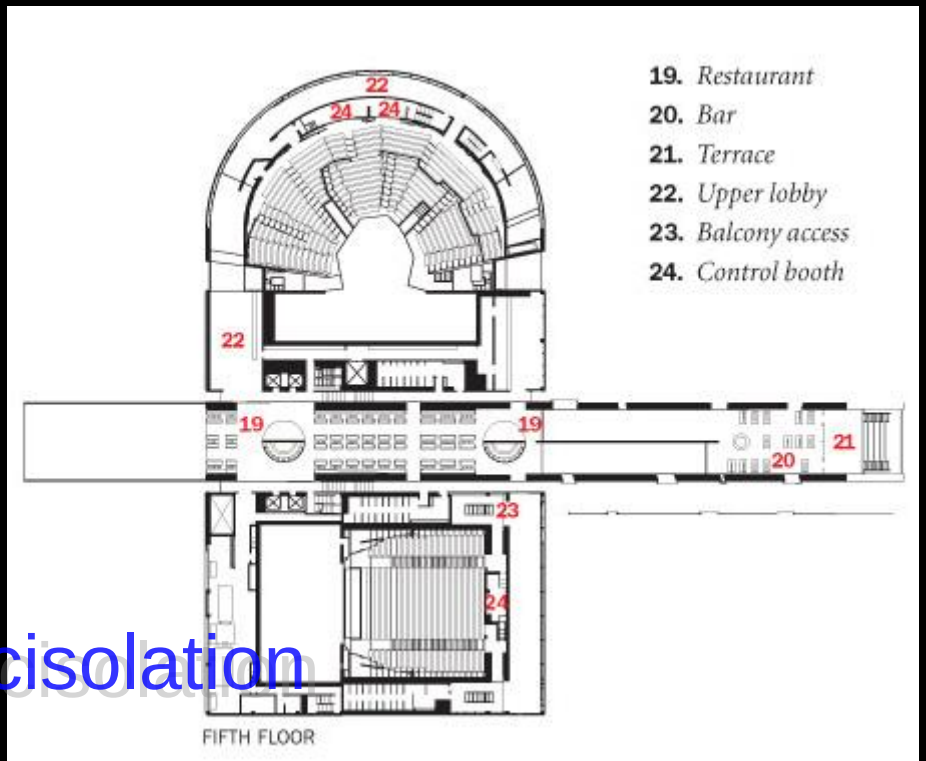

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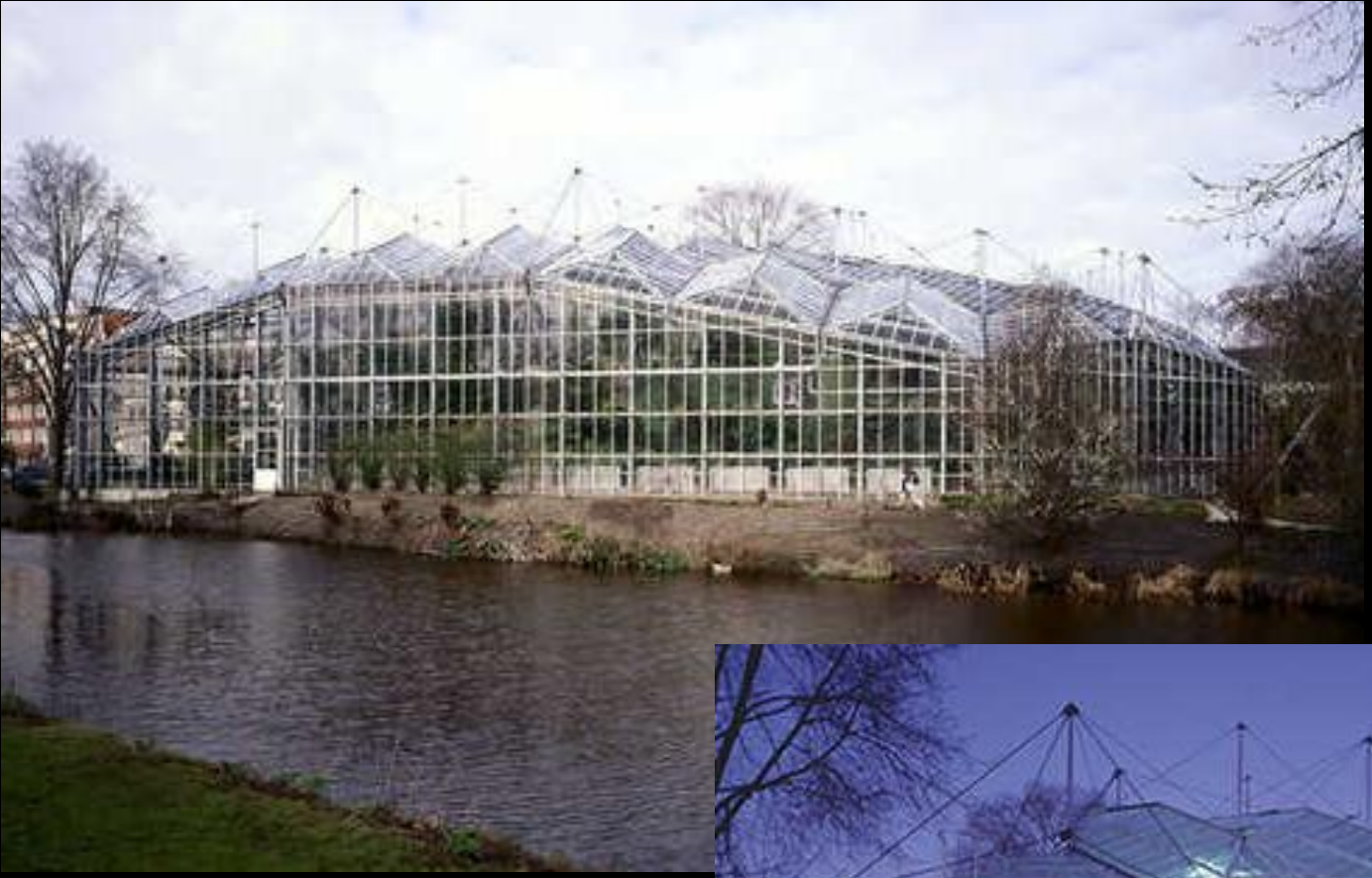

Botanicus Amsterdam, 1992: wall transparency, dematerialization but no decoration

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Sony Center, Potzdamer Platz, Berlin, 2000, Helmut Jahn Arch., Ove Arup

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Design Museum, Nuremberg, Germany, 1999, Volker Staab

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- **Shopping Center, Dalian, China**

Frankfurt, Germany, (2003), Joerg Friedrich Arch, glass house


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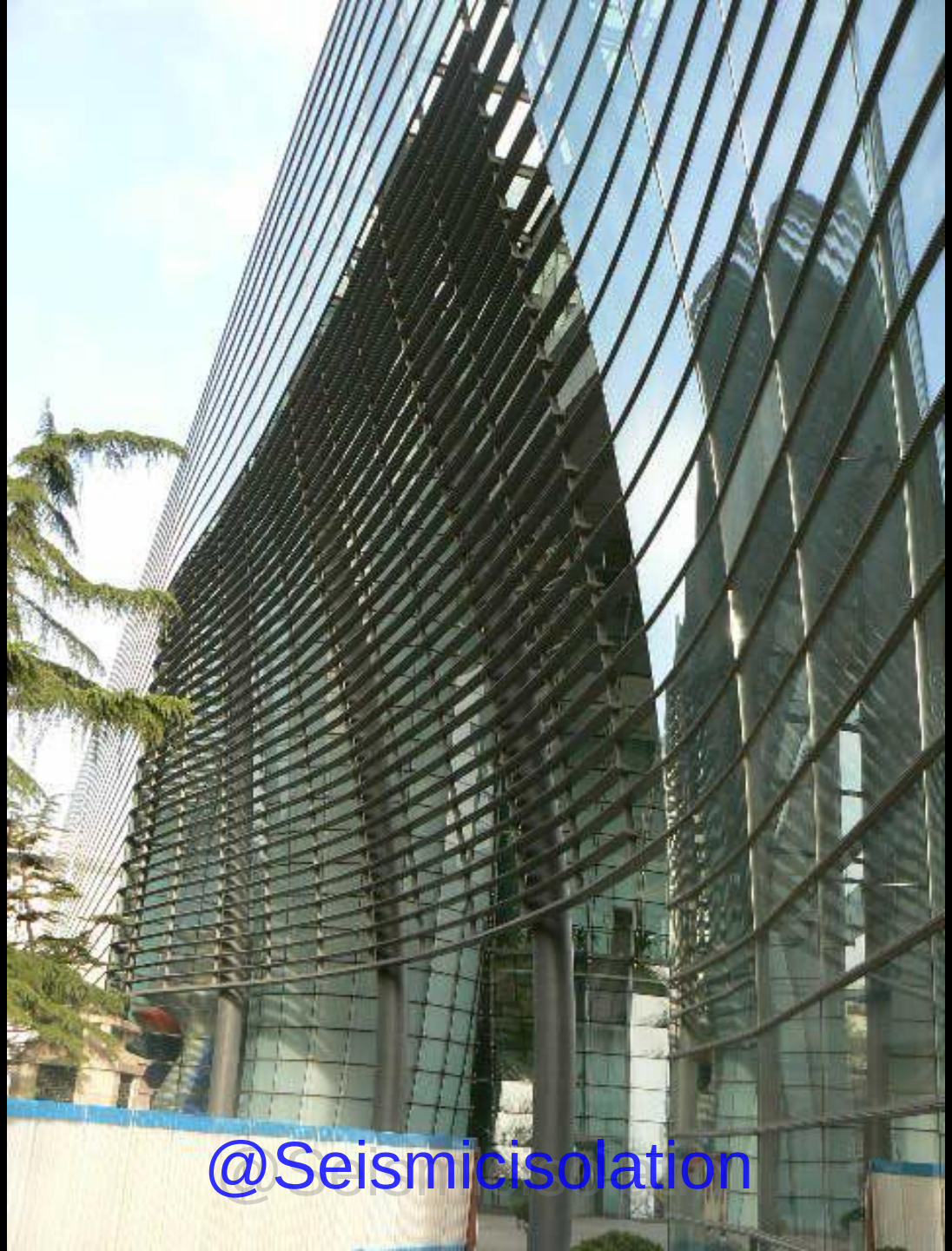
New Beijing Planetarium, 2005, AmphibianArc – Nanchi Wang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• The **Kandel apartment building**, Heidenheim, Germany, 1997, *Hoefler Arch*., appears like several buildings on top of each other, each one with its own support structure. In other words, the building mass is broken up into different structures. Notice the red column running diagonally all the way up to the roof relaxing the hierarchy of the support structure.

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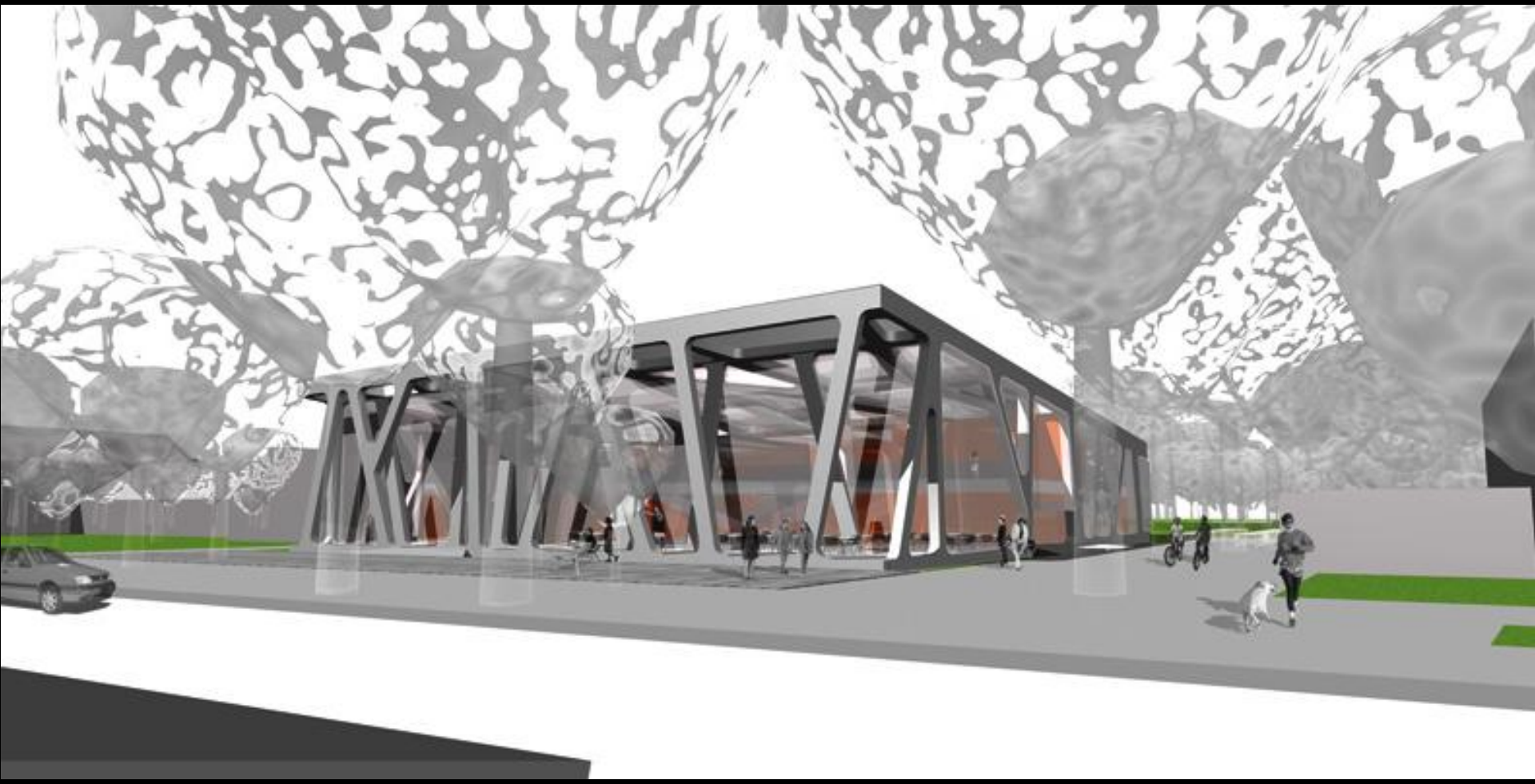

Dining Hall Karlsruhe, Hochschule Karlsruhe, 2007, Jürgen Mayer H, ARUP GmbH

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G. ARTISTIC TREATMENT OF BUILDING EDGE

Finally, I like to conclude with a more artistic treatment of the building edge. The effect of special details as architectural events.

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The asymmetrical entrance metal-glass canopies of the National Gallery of Art, Stuttgart, J. Stirling (1984), counteract and relieve the traditional post-modern classicism of the monumental stone building; they are toy-like and witty but not beautiful.

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Public Library, Muenster, Germany, 1993, *Julia Bolles + Peter Wilson Arch.*: unusual juxtapositions. The building is divided into two sections with a path cutting through the center and connected by a bridge. Strong modern forms with historical reference blend with the urban environment and enhance human experience. The asymmetrical, inverse A-frame not only carries the sculptured roof structure but also provides a vigorous energy and dynamics to the urban space.

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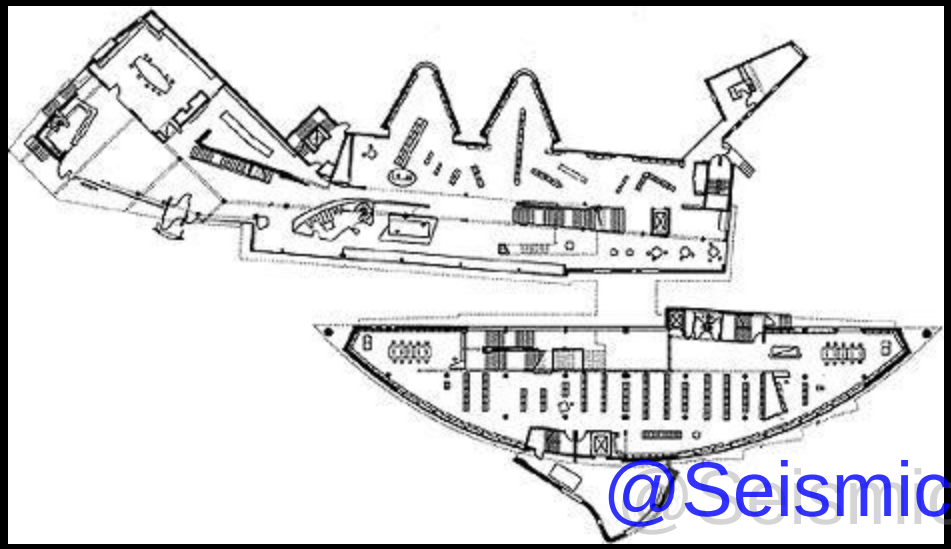

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Documentation Center Nazi Party Rally Grounds (Nuremberg, 2001, Guenther Domenig Architect) is located in the unfinished structure of the Congress Hall. It gives detailed information about the history of the Party Rallies and exposes them as manipulative rituals of Nazi propaganda. A glass and steel gangway penetrates the North wing of the Congress Hall like a shaft, the Documentation Center makes a clear contemporary architectural statement.

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IRS Building, Culver City, LA, 1994, *E. O. Moss Arch*.: The addition of the spectacular, sculptural entrance with an unexpected external stairway, using steel elements from the old structure together with new ones, generates an unusual architectural event in the rectangular space.

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