Marcel Breuer

Bauhaus Tradition, Brutalist Invention

Barry Bergdoll
with a contribution from John H. Beyer

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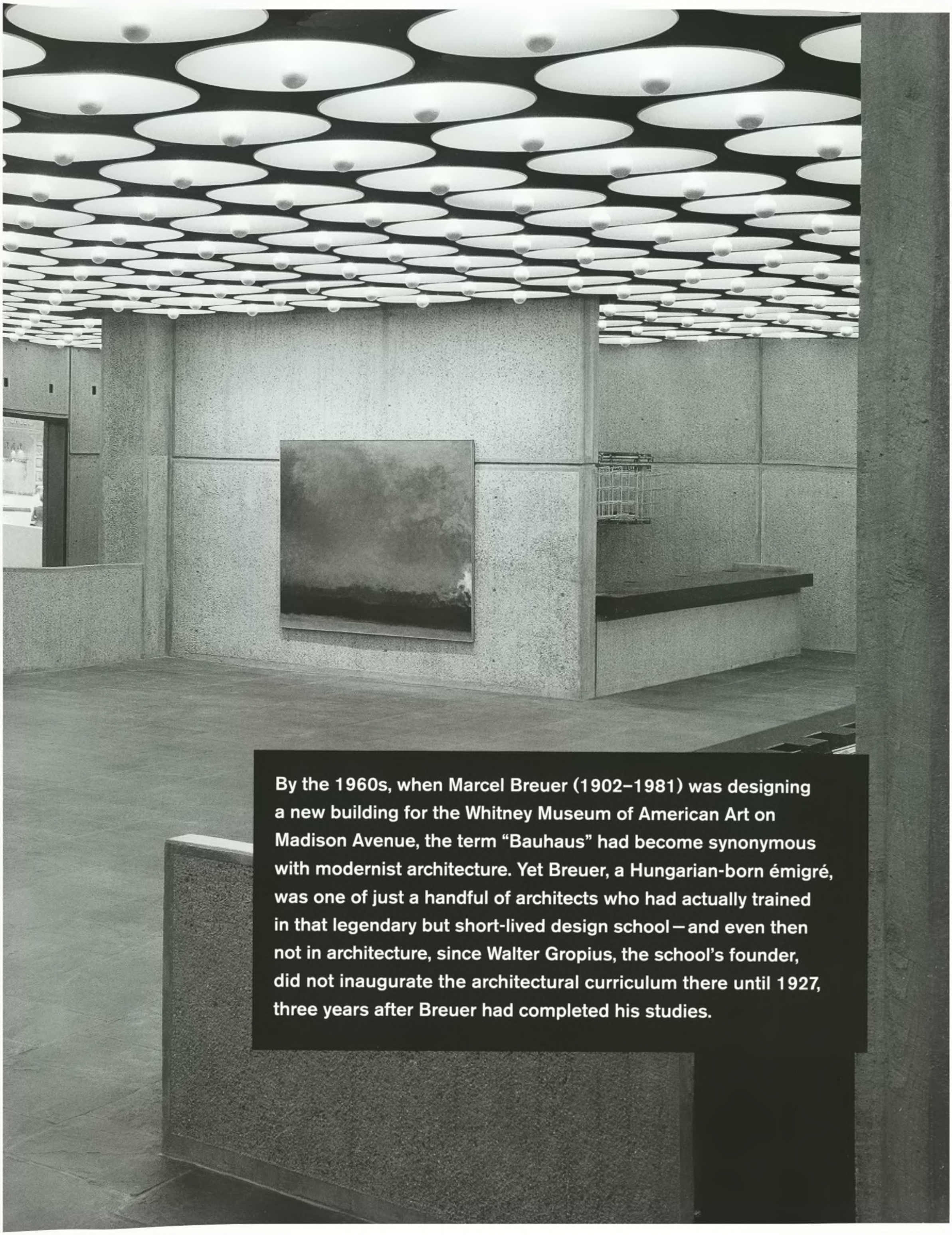


By the 1960s, when Marcel Breuer (1902–1981) was designing a new building for the Whitney Museum of American Art on Madison Avenue, the term "Bauhaus" had become synonymous with modernist architecture. Yet Breuer, a Hungarian-born émigré, was one of just a handful of architects who had actually trained in that legendary but short-lived design school—and even then not in architecture, since Walter Gropius, the school's founder, did not inaugurate the architectural curriculum there until 1927, three years after Breuer had completed his studies.

Breuer (fig. 1) had instead focused on woodworking, later becoming a teacher at the Bauhaus and one of the school's most prolific furniture designers. Nonetheless, over the course of his long career Breuer would go on to create a large and influential portfolio of nearly 150 buildings, beginning in Europe in the 1930s, then continuing in America after his arrival in 1937, and finally internationally, from his base in New York, after 1947.

When the new Whitney opened to the public on September 27, 1966, Breuer's stone-clad structure, described by generations of observers as an "inverted ziggurat," stood out every bit as much as the nearby Solomon R. Guggenheim Museum, Frank Lloyd Wright's upwardly expanding spiral designed a few years earlier (1953–59).[1] At first glance, Breuer's building seems the very antithesis both of the Bauhaus ethos, which privileged industrial facture and serial repetition, as well as the Bauhaus aesthetic, with its preference for volumes rendered transparent through new technology and materials such as steel, concrete, and plate glass. Breuer himself had achieved early international success with designs of unprecedented lightness and transparency, most notably his tubular-steel chairs and projects for prefabricated houses. The question, then, is how Breuer evolved from a Bauhaus master into one of the champions of an architectural style dubbed the "New Brutalism" for its love of robust primal forms and frequent use of unadorned raw concrete (*béton brut* in French)?

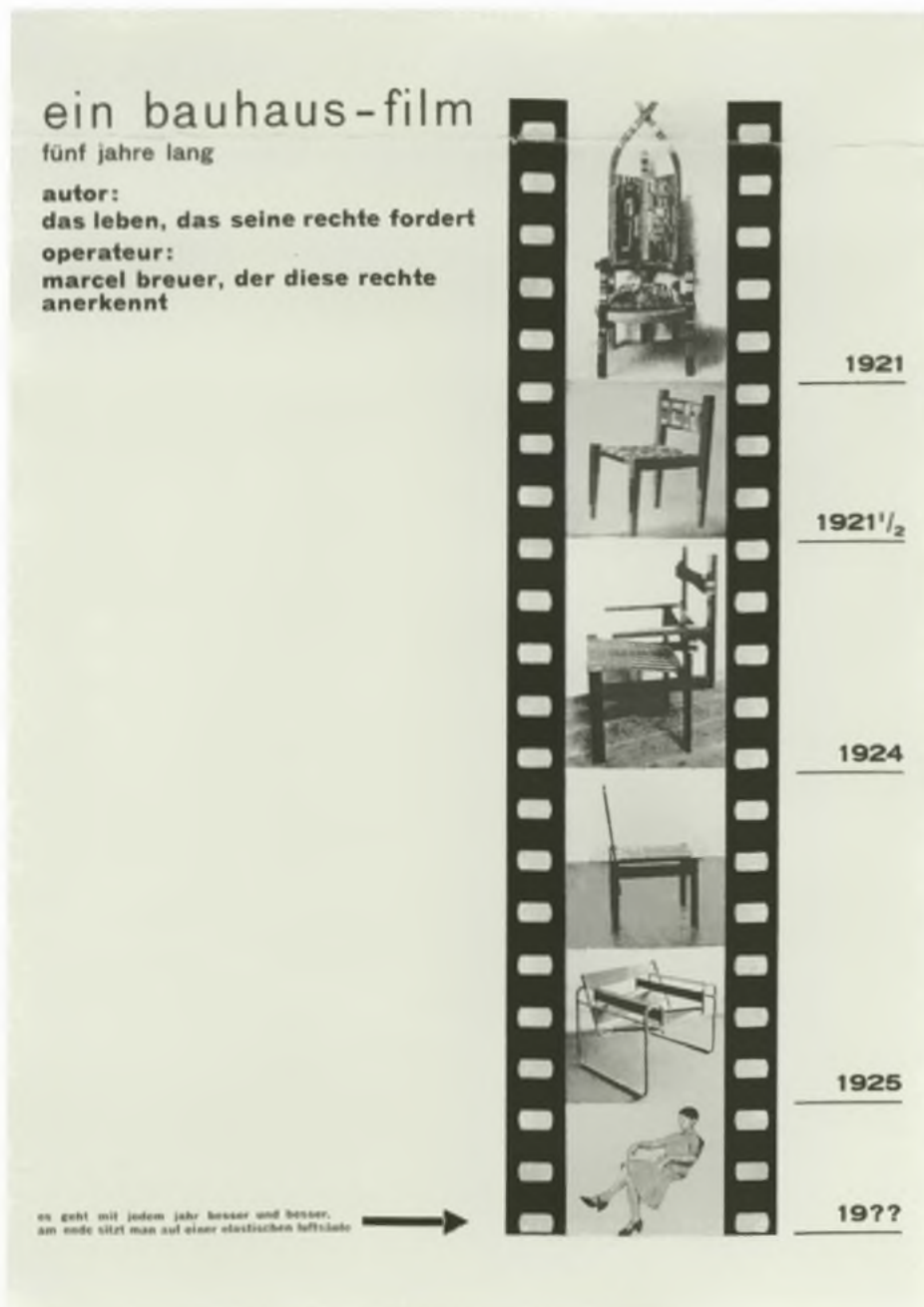
Breuer's best-known furniture designs, made before he turned thirty, were so lightweight that he could playfully envision how the chair might one day disappear from the domestic environment and we would sit on a column of air. He famously elaborated on this concept in a poster for an imaginary film meant to document the search for modern objects of daily use (fig. 2). The forms of these furnishings would derive from the materials and industrial logic of serial production: in other words, forms based on the credo of the Bauhaus, particularly after the school was reestablished in 1925 in Dessau, Germany, home of

1. Breuer in a "Wassily" chair, 1928

2. Photomontage for a Bauhaus film, published in *Bauhaus* magazine, July 1926

3. Breuer and Gunta Stölzl, "African" chair, 1921

4. "Cesca" side chair (model B32), 1928. Chrome-plated tubular steel, wood, and cane, H. 32 in. (81.3 cm). Manufactured by Gebrüder Thonet, Vienna. The Museum of Modern Art, New York; Purchase



the innovative Junkers aircraft company. At Junkers, lightweight metals were being employed to fly heavy loads into the air. Breuer's "film" was thus intended to chronicle the analogous evolution of furniture design in the mere five years since he had created his so-called African chair: an embroidered, one-off craft object designed in a deliberately primitivizing manner in 1921, when he was just nineteen years old, with fellow Bauhaus student Gunta Stölzl (fig. 3). As Breuer's poster makes clear, this design was quickly replaced; the chair was reimagined as an abstract composition of lines and planes, first in wood and then in tubular steel.

In the Preliminary Course at the Bauhaus, students were challenged to transform a material as radically as possible using the fewest manipulations. For his 1928 chair (later named the "Cesca," after his daughter, Francesca) Breuer elegantly bent tubular steel – he claimed bicycle handlebars as inspiration – so that the chair's cantilevered frame describes a continuous line into which a seat is inserted (fig. 4) and the sitter thus seems to float off the ground. The chairs were intended for industrial production; design was to be the handmaiden not of the loom and lathe but of the machinery of the assembly line. Here, then, was a triumphant bid for ubiquity: even today one can buy this most successful of all modern chair designs on the internet, and every Sunday *New York Times Magazine* contains advertisements for recaning the seats. It is also a masterwork of portability. Indeed, the lightweight chair was moved as easily as its peripatetic creator, who within a few years would follow into exile many other Bauhaus designers fleeing the rise of the Third Reich.

Breuer's personal and professional trajectory was marked by a kind of reactive, Brownian motion, as he escaped political situations and pursued unexpected opportunities to reinvent himself. Remarkably, however, his exploration of architectural form as the product of the juxtaposition of materials, techniques, and opposing fundamental qualities – solid and void, light and heavy, transparent and opaque – always hewed closely to the ahistorical training that was the hallmark of the Preliminary Course at the Bauhaus and of its workshop method of teaching through making. This approach remained a constant framework for Breuer even as everything else around him changed, from his sense of aesthetic and scale to his client list to his very nationality.

Early Years

Breuer's journey began in Pécs, in present-day Hungary, where he was born in 1902 as a citizen of the Austro-Hungarian Empire. In pursuit of an artistic education, he gravitated naturally to Vienna, but the young designer quickly grew dissatisfied with the traditionalism of the Vienna academy, with its study of old masters and classical forms. Instead, hearing the call of the Bauhaus Manifesto, Breuer decamped after only six weeks for Weimar, a small city associated with the flowering of German literature and science – with Goethe and Schiller – but now, too, with the adoption of the country's first constitution and with Gropius's experimental school.

Founded in 1919, a year before Breuer's arrival, the Bauhaus recognized no division between craft and fine art. Instruction was guided as much by pure exploration of material, and with a sense of our emotional and psychological relationship to basic forms, as by any study of tradition or precedent, which were all but banished from the innovative curriculum. After four years there, Breuer left for a period of travel and practical experience. In 1924 he possibly worked for a few weeks for Pierre Chareau, later the co-designer of the famous Maison de Verre, Paris (1928–32), and encountered the work of Le Corbusier. By 1925 he had returned to the Bauhaus, which was then preparing for its move to Dessau.

Breuer collaborated with Gropius and his architectural associate Adolf Meyer on the furniture program for the radical new school building at Dessau, whose studio block was fronted by a glass curtain wall evocative more of the industrial innovation of a factory building than the noble tradition and civic elevation of a school (fig. 5). Most of the spaces of the building, from the student rooms to the dining hall, were outfitted with Breuer's lightweight, portable furniture and built-in storage units. The auditorium had rows of tubular-steel chairs that were fixed to the floor but whose foldable seats

5. Bauhaus, Dessau, Germany

6. Auditorium at the Bauhaus with seating designed by Breuer, 1925–26

allowed for easy movement through the space (fig. 6). As master of the school's reconstituted furniture workshop, Breuer went on to develop some of his most famous furniture designs at this time, including several that, as noted above, are to this day synonymous with modern interiors.

From the beginning, Breuer's quest for a contemporary approach to interiors reflected some of the core paradoxes of the Bauhaus. He set out to create prototypes for industrial production, an ambition central to the debate in the prewar years about the designer as the creator of objects that could move from the luxury market into larger consumer markets, an aspiration that eventually expanded from everyday objects to prefabricated buildings. He also explored the idea of creating families of furniture types, or variations on a set of themes, so that suites of tables of different heights or other pieces could be combined and exchanged in harmony. In the catalogue of the Standard Möbel (Standard Furniture) company, which Breuer founded in 1927 to market his designs, he gave the furniture utilitarian numbers, such as "B13" (fig. 7). "Today," Breuer wrote in 1928, shortly after he elected to leave the Bauhaus, "we change our lives more rapidly than in the past. It is natural that our environment must undergo corresponding changes. This leads us to installations, rooms, buildings, all or most of whose components can be converted, moved, and recombined. The furnishings, and even the walls of the rooms, are no longer massive, monumental. . . . Rather they are airily perforated and, as it were, outlined in space; they obstruct neither movement nor the view across the room."[2] As many scholars have documented, the conflicts that soon arose over this arrangement – symptoms of tensions not only over the profits but also over credit for the authorship of these designs – led directly to Breuer's departure from the school. If the Bauhaus idealized the work of team members, then individual creators had nonetheless begun to fear a loss of control over the authorship of their work.

In the summer of 1928 Breuer opened his own office in Berlin, run out of a studio apartment, with Gustav Hassenpflug, his former student in the carpentry workshop at the Bauhaus.[3] The pair worked on competition submissions, but the mainstay of their small practice initially was remodeling interiors of Berlin flats. In the Boroschek Apartment (fig. 8), the floating aesthetic of the thin-membered, tubular-steel tables and chairs opened up a sweeping view across the floor. This flow was accentuated by the wall-mounted storage units, which created a horizon line, or datum, that unified the various rooms. The reconfigured design allowed the spaces to connect generously with one another but also to be separated by hinged transparent doors and large floor-to-ceiling curtain dividers.

That Breuer's design ambitions were not limited to the living rooms of Berlin's open-minded professional class – even if his clients included such notables as the experimental-theater director Erwin Piscator (fig. 9) – was clear from his eager participation in the earliest meetings of the Congrès Internationaux d'Architecture Moderne (CIAM, founded 1928). This international gathering of

RÜCKENLEHNSTUHL

mit Stoffbespannung

B5

Sitzhöhe 45 cm

TEETISCHE

B9-9c

in 4 verschiedenen Größen

L15 LIEGE-GESTELL

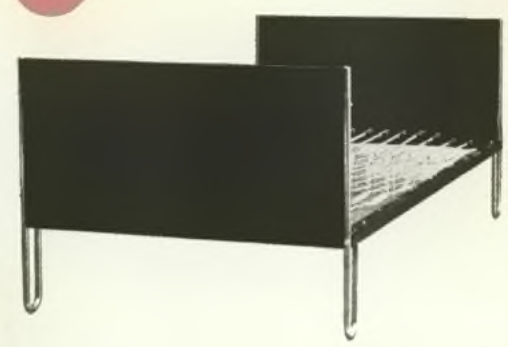
mit Stoffbespannung

WIR bringen das Möbel der neuesten Zeit, des modernen Menschen, der seine Umgebung nicht mit unzweckmäßigem Kram beengt und sich mit klarem Geiste in sonnigen Räumen ungezwungen bewegt ● UNSER Konstruktionselement ist Stahlrohr ● WIR schaffen auf einfachste Art und mit einfachsten Mitteln Möbel, die sich allen Ansprüchen des modernen Kulturmenschen anpassen ● UNSERE Möbel befriedigen das Schönheitsgefühl des Menschen, der mit seinem ganzen Schaffen und Denken im Tempo des XX. Jahrhunderts wurzelt ● Wenden Sie sich an uns, verlangen Sie Vorschläge für Einrichtungen jeder Art ● WIR beraten Sie kostenlos ●

M. BREUER

BETT

B13



mit Sprungfedermatratze

KLUBSESSEL

mit Stoffbespannung

B3

Gewicht	ca. 6 kg
Gesamtbreite	ca. 77 cm
Gesamttiefe ...	ca. 67 cm
Gesamthöhe	ca. 74 cm

PREIS-LISTE

STAHLROHRMÖBEL D.R.G.M. • D.R.P. • AUSL.-PATENTE

Typ		RM
B. 1	**Theaterstuhl** m. Stoffbespannung und Klappsitz (bei mindest 50 Stück)	32.—
B. 3	**Klubsessel** m. Stoffbespanng. Sitzhöhe ca. 45 cm	65.—
B. 4	„ „ „ zusammenklappb.	60.—
B. 5	**Rückenlehnstuhl** m. Stoffbespanng. 85 cm hoch, 45 cm breit, 50 cm tief	36.—
B. 6	**Rückenlehnstuhl** mit Holzsitz und -lehne, 88 cm hoch, 42 cm breit, 40 cm tief	25.—
B. 7	**Drehstuhl** mit Holzsitz und Stoffrückenlehne	34.—
B. 8	**Hocker** m. Stoffsitz, 35 × 35 cm, Sitzhöhe 45 cm	26.—
B. 9	**Teetisch od. Hocker** m. Holzpl. 35×35, Höhe 45 cm	19.—
B. 9a	„ „ „ „ „ 42×35, „ 50 „	22.—
B. 9b	„ „ „ „ „ 49×35, „ 55 „	25.—
B. 9c	„ „ „ „ „ 56×35, „ 60 „	29.—

Typ		RM
B. 10	**Tisch,** quadratisch, mit Holzplatte 70×70 cm, Höhe 68 cm	66.—
B. 11	**Armlehnstuhl** mit Stoffbespannung, 88 cm hoch, 48 cm breit, 50 cm tief	48.—
B. 12	**Ablegetisch** mit Doppelplatte, Größe wie B. 9c	42.—
B. 13	**Bett** mit Sprungfedermatratze, 200 × 100 cm	80.—
L. 14	**Tisch,** rund mit Holzplatte, 60 cm Durchmesser, Höhe 68 cm	50.—
L. 15	**Liegegestell** mit Stoffbespannung, 180×75 cm,	80.—
L. 16	**Schrank** mit Sperrholz für Wäsche, Kleider, Geschirr usw. a) 180×120 cm, 55 cm tief	160.—
	b) 135×160 „ 55 „ „	150.—
	c) 135× 80 „ 55 „ „	100.—
L. 17	**Stehlampe,** verstellbar, Höhe 165 cm komplett	120.—

Ausführung der Typen zu obigen Preisen:
Metallteile aus Präzisions-Stahlrohr **vernickelt.**
Holzteile schwarz **gebeizt.**
Stoffbespannung: schwarz, rostfarb. od. grau, Eisengarnstoff. Stahlrohr in **verchromter** Ausführung ca. 10% Aufschlag. Holzplatten in **schleiflackierter** Ausführung ca. 20% Aufschlag. Kleine **Abweichungen** von den Katalogabbildungen vorbehalten!

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Verpackung wird zum Selbstkostenpreis berechnet und nicht zurückgenommen.
Transport geschieht auf Gefahr des Bestellers.
Zahlung sofort nach Rechnungserhalt.
Reklamationen werden nur binnen 8 Tagen berücksichtigt.
Gerichtsstand: Berlin-Mitte.

KLUBSESSEL

zusammenklappbar

Sessel zusammengeklappt nur 15 cm tief

B4

Gewicht	ca. 5 kg
Gesamtbreite	ca. 77 cm
Gesamttiefe ...	ca. 61 cm
Gesamthöhe	ca. 70 cm

STEHLAMPE

verstellbar nach jeder Richtung

L17

ABLEGETISCH

B12

Größe wie B9c

L16a

mit Inneneinteilung für jeden Verwendungszweck

SCHRANK

TISCH

B11

Sitzhöhe 45 cm

B10

mit Stoffbespannung

ARMLEHNSTUHL

7. Standard Möbel catalogue, 1928. Bauhaus Archiv, Berlin

8. Boroschek Apartment, Berlin, 1930

9. Piscator Apartment, Berlin, 1930

10. Harnischmacher House, Wiesbaden, 1932

the architectural avant-garde included Le Corbusier, Gropius, and a host of other luminaries, largely Breuer's senior, from France, the Netherlands, Belgium, Germany, Switzerland, and even the Soviet Union. Breuer's ideas for industrially produced, prefabricated houses using new materials and techniques found a sympathetic audience at CIAM. Although his designs never advanced beyond preliminary sketches, Breuer's experimental projects, such as his BAMBOS Houses (see fig. 28), which he proposed to build as residences for the younger teaching masters of the Dessau Bauhaus, lived on through the group's debates, publications, and exhibitions.[4]

By this time Breuer was a fully fledged creator in the international movement for a modern architecture, as made abundantly clear from his first executed building, the 1932 Harnischmacher House (fig. 10). Exploiting a steel frame to cantilever a porch out over the suburban garden of the sloped site, Breuer intended the house to be an expression of visual lightness, one whose overall

11. Wohnbedarf store, Zurich, 1932

12. Chaise longue no. 313, 1932. Aluminum and varnished wood, L. 53⅞ in. (137 cm). Manufactured by Embru-Werke AG, Switzerland. Vitra Design Museum, Weil am Rhein

concept would reflect a wholesale reinterpretation of interior and exterior through the use of large sheets of plate glass. A veritable showpiece of the modernist impulse, the house might easily have been featured that same year in the epochal first architecture exhibition of New York's Museum of Modern Art, which defined the term and characteristics of the "International Style." Yet Breuer's built and unbuilt projects of the next few years, a period when he was urgently seeking a new base of operations in order to escape Hitler's rise, portray an emerging sensibility in which natural materials enter into dialogue with industrial ones, contemporary techniques are collaged with traditional construction, and the heritage of the Bauhaus Preliminary Course, which encouraged the exploitation of differences in materials and of visual contrast, took on a new constructional logic. Soon, Breuer's architectural language would shift dramatically.

From about 1933 to 1935 Breuer shuttled between Zurich and Budapest, hoping that some opportunity might take root. At the innovative Wohnbedarf shop in Zurich (fig. 11), associated with the influential critic and architectural historian Sigfried Giedion (a friend of Gropius's and secretary-general of CIAM), he designed the store's interior as well as many of its goods, continuing his experiments with aluminum (fig. 12). And in the autumn of 1935 he followed the example of Gropius, Moholy-Nagy, and other Bauhaus artists who had decided to try their luck in Britain, where association with a British designer – in Breuer's case F. R. S. Yorke – would permit immigration. Breuer remained in the United Kingdom for only two years, but it was a formative period for both his furniture and architecture. Exploring new methods and materials, he developed an aesthetic of contrasting textures – the dialogue between the industrial and the natural – that would mark many of his designs for the remainder of his career.

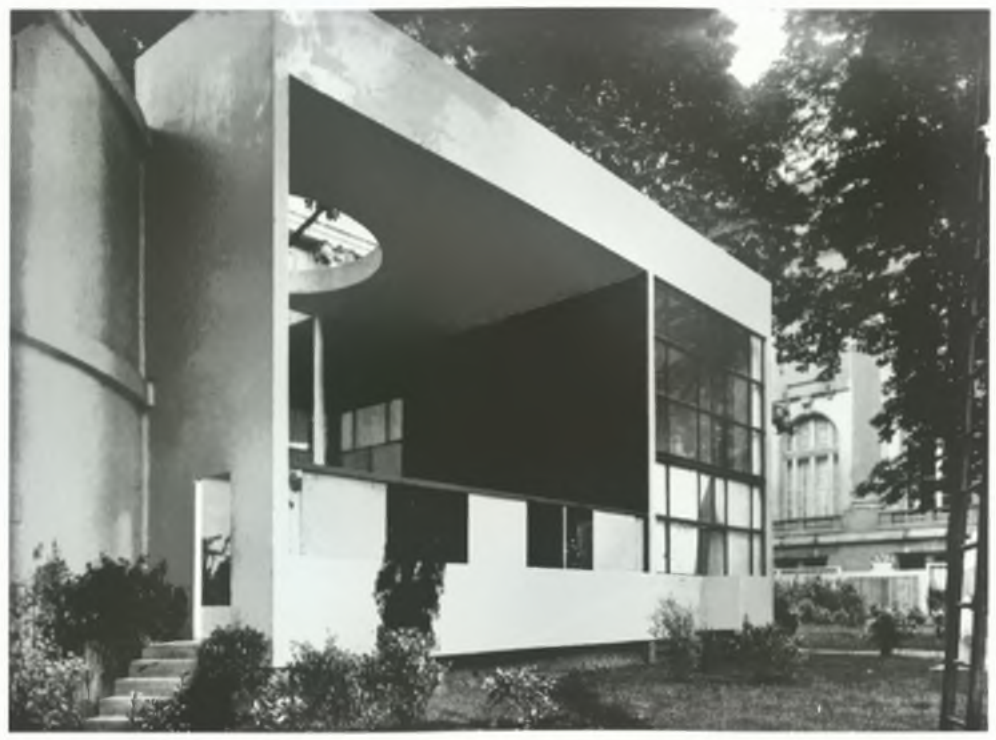
Where the Harnischmacher House was marked by a consistency of industrial finishes, the Gane Pavilion – designed by Breuer and Yorke as a showcase for furniture maker Crofton Gane at the Royal Agricultural Show, Bristol, in July 1936 – announced a wholly new sensibility (figs. 13, 14). Here Breuer added his voice to the ongoing conversation on the model dwelling (developed as an exhibition object) that had begun with Le Corbusier's startling Pavillon de l'Esprit Nouveau, built at the margins of the Exposition Internationale des Arts Décoratifs et Industriels Modernes, Paris, in 1925 (fig. 15), and continued, arguably, with Ludwig Mies van der Rohe's iconic Barcelona Pavilion (fig. 16).

13. Gane Pavilion, Bristol, 1936

14. Interior of Gane Pavilion

15. Le Corbusier, Pavillon de l'Esprit Nouveau, Paris, 1925

16. Ludwig Mies van der Rohe, Barcelona Pavilion, 1929



Constructed for the 1929 World's Fair, Mies's pavilion holds aloft its cantilevered slab roof on thin, cruciform, polished chromium-steel columns, creating the illusion of space sliding between freestanding walls of precious materials (the whole was enclosed in floor-to-ceiling glass). Breuer, too, used plate-glass walls, but as one element in a collage of materials and surfaces set into a frame of load-bearing, rustically cut stone. The interior walls and ceiling of the Gane Pavilion were clad in thin sheets of cut wood, selected for their graining. Entrance to the structure was marked by a wall that began as a garden element, beckoning fairgoers to peruse Gane's products but also attesting to a desire to connect interior and exterior spaces in a way that would become ever more prominent in Breuer's American houses after he left London for Cambridge, Massachusetts, in fall 1937.

In close parallel with Le Corbusier's explorations of hybrid structural systems, which examined the possibilities offered by combining open cages of reinforced concrete or steel with traditional organic materials and age-old construction methods, Breuer began to rely on shaped stone walls in many of his architectural designs. The front wall of the Gane Pavilion, for example, is a great shallow curve (fig. 17), similar to that in Le Corbusier's Pavillon Suisse at the Cité Internationale Universitaire, Paris (fig. 18). At the same time, Breuer engaged in a kind of colloquy with Finnish modernist Alvar Aalto, a pioneer in the use of bent plywood. Aalto had ordered Breuer's furniture for his own residence in Turku in the late 1920s, and now the two designers pursued their mutual interest in bending wood into curves of great strength and buoyancy. Breuer's masterpiece of the period, the chaise longue he developed for Jack Pritchard's innovative furniture company, Isokon, in 1935 (fig. 19), reflects these formative investigations.

BED RM
STUDY
CHILDS R
LIVING RM
TERRACE
PERGOLA OVER

17. Plan of Gane Pavilion

18. Le Corbusier, Pavillon Suisse, Cité Internationale Universitaire, Paris, 1930–31

19. Chaise longue, ca. 1935–36. Molded and laminated plywood, L. 51 in. (129.5 cm). Manufactured by the Isokon Furniture Company, London. Brooklyn Museum; Modernism Benefit Fund (87.181a–b)

20. Gropius House, Lincoln, Massachusetts, 1937–38

In America

Although Breuer achieved a degree of independence from Gropius during the post-Bauhaus years, in 1937 he accepted his mentor's offer to follow him to the United States to teach at the Harvard Graduate School of Design, then undergoing radical pedagogical changes under the direction of its first dean, Joseph F. Hudnut. Gropius was the chair of the architecture department, and Breuer would also work beside him in a small architectural office. With his Harvard students, Breuer focused on developing his ideas for prefabrication, now attuned to developments in industrialized wood. That Breuer and Gropius embraced wood construction in their partnership no doubt eased the way for some of the modernist ideas they helped introduce in America, where most residential construction remained in wood for much of the twentieth century. They employed wood in structurally innovative ways, however, as seen in the designs for their own houses in Lincoln, Massachusetts. Built on land provided by the wealthy Boston philanthropist Helen Osborne Storrow, the Breuer and Gropius houses face one another across expansive lawns, announcing a more relaxed mode for the transplanted Europeans. Gropius's house is composed as a collage of materials, including stone walls for foundations and garden borders, a gray painted-brick chimney, and a white painted-timber envelope (fig. 20). The complex dialectic between tradition and innovation that was to be a hallmark of Breuer's American designs was already established in these jointly authored works.

New England is famed for its tradition of clapboard houses. For their Lincoln homes, Gropius and Breuer took the material and literally stood it on end, attaching the clapboards to the wood frame vertically and laying the boards flush rather than having them overlap. By doing so, they maintained the crispness of the volumetric composition favored by the Bauhaus, but the wood construction made it easier to cut into the box in order to create rich spaces and patterns of shadow, exemplified by the semioutdoor terraces

21. Breuer House, Lincoln, Massachusetts, 1937–38

22. Interior of Breuer House, Lincoln

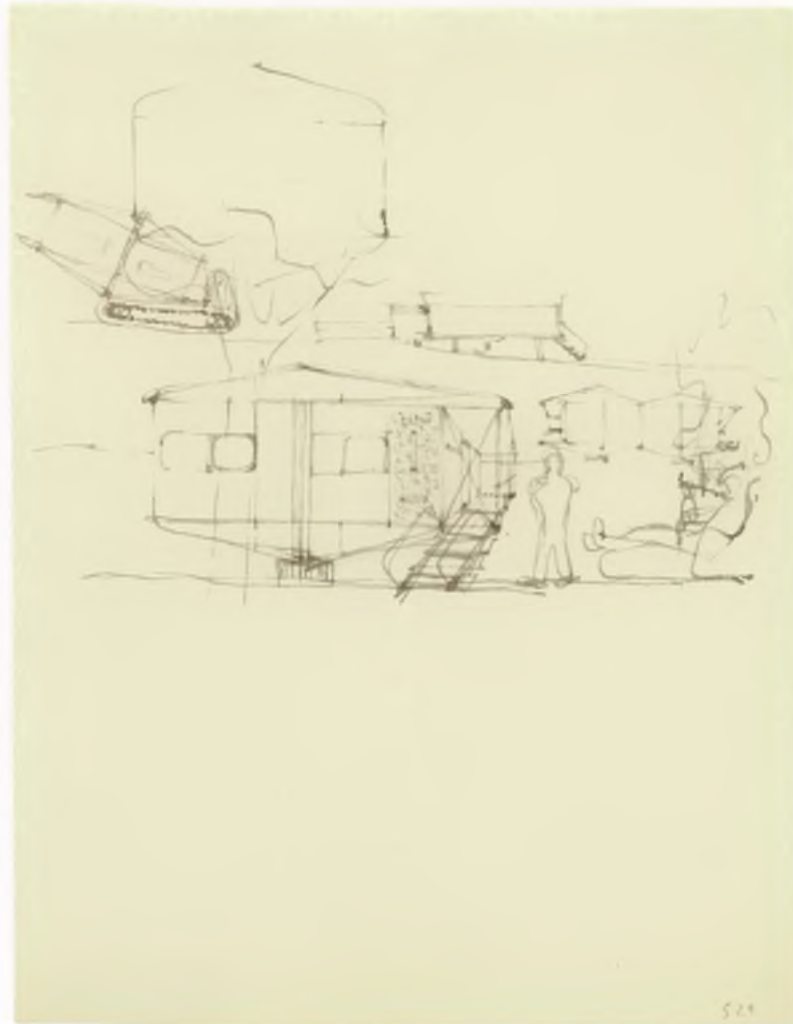
23. Model of the Plas-2-Point House, 1943

24. Drawing of the Plas-2-Point House

covered by wood lattices. In Breuer's house, the whole plays off against a mighty but gently curved stone wall that also incorporates a chimney (figs. 21, 22). In a set of plans from this time, which may be for this house or for a house he designed for two Bauhaus students who settled outside New Hope, Pennsylvania, Breuer further elaborated on the idea of curving the exterior walls of the house into forms reminiscent of his recent experiments in bent plywood chair frames.

During the 1938–39 academic year, Sigfried Giedion, like Breuer, accepted an invitation from Gropius to teach at Harvard, where he delivered a stirring set of lectures that offered a comprehensive explanation of the rise of architectural modernism and clear indications as to how architecture could evolve to incorporate the latest industrial developments. Published in 1941 as *Space, Time and Architecture: The Growth of a New Tradition* – one of the most influential architecture books of the twentieth century – Giedion's lectures presented American building traditions for the first time as a continuum of experimental innovation and standardization of perfected elements. The balloon frame, for example – a lightweight, prefabricated matrix developed in the mid-nineteenth century to facilitate building houses for the country's rapid westward expansion – was for Giedion one of architecture's greatest innovations, to be counted alongside the models of reinforced concrete offered by Le Corbusier's Dom-Ino building block concept or the steel cage of the American tall office building. It was also the point of departure for Breuer's own intensive study in the 1940s of new systems of prefabrication. Of these, the most innovative was the prototype for the so-called Plas-2-Point House (figs. 23, 24), a polygonal frame inspired in part by studies of the sections of airplane wings, in which enormous strength is achieved by combining a trusslike member with a working skin. Whereas in an airplane the skin was made of sheet metal, in Breuer's houses it would be constructed out of three sheets of plywood laid in contrasting orientations to achieve strength and rigidity with minimum mass and weight.

Breuer was not alone in this endeavor in the years following the Second World War. With the return of American GIs and the ensuing baby boom, the U.S. government subsidized research into new methods of prefabrication to meet the demands of the country's exploding suburbia. The most successful of the serially produced houses were not designed for factory production but rather could be assembled from a standard set of parts and rapidly built in situ. This was the formula made famous by real-estate developer and builder William Levitt on the East Coast



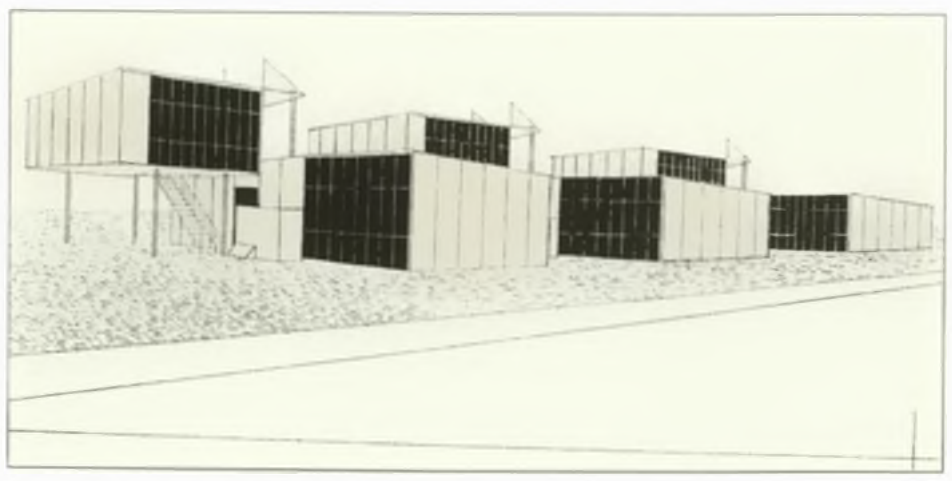
25. "House in the Museum Garden," The Museum of Modern Art, New York, 1949

26. Interior of House in the Museum Garden

27. Stillman House 1, Litchfield, Connecticut, 1950–51

of the United States (Levittown, Long Island) and in France. Breuer's response to the prevailing conservative, neocolonial taste of Levittown and similar models proffered for the postwar housing boom was the exhibition "House in the Museum Garden" at the Museum of Modern Art in the summer of 1949 (figs. 25, 26), by which time he had relocated to New York. With its inverted-pitch (or butterfly) roof and "binuclear" plan – in which the bedrooms for parents and children are situated at opposite ends of the home – Breuer's concept was a radical alternative to the Cape Cod Colonial Revival. It was imagined to function not as a machine for living through its mechanical services but as a machine for the postwar homemaker with two children, a philosophy carefully staged by Breuer's preferred photographer, Ezra Stoller, as part of the MoMA house's huge publicity machine. Because the house was meant to grow with a family and its budget, Breuer outlined a plan to fill in voids in the base design and to make additions. The house was also replicable by local builders from a set of drawings that the architect could provide. Although only a few faithful copies were ever made – two in New Jersey, one in Pennsylvania, one in New York State, and one in distant Alaska – Breuer's concept was enormously influential in American house design of the 1950s.

The House in the Museum Garden project brought Breuer several important new clients wanting their own houses designed by the Bauhaus master now endorsed by Harvard and MoMA. Of those, none was more significant for Breuer's American career than Rufus Stillman, president of the Torin Manufacturing Company in Torrington, Connecticut. Stillman and his wife, Leslie, had visited the MoMA house and subsequently commissioned Breuer to design a residence for them in Litchfield, Connecticut (fig. 27). Over the next few decades, the Breuer office would create two more houses for the Stillmans as their family and income grew; the firm also planned houses for Rufus's colleagues and for Torin's factories as the company



expanded to California (1956), Indiana (1960), Belgium (1963), England (1965), and Australia (1976). Concurrently, through Rufus Stillman's involvement in various civic organizations, Breuer designed elementary schools and a high school for the Torrington School District and service buildings for the New England Telephone and Telegraph Company. Breuer was becoming an architect of a full range of modern buildings for an expanding network of influential clients.

28. Perspective rendering of the BAMBOS Houses, 1927

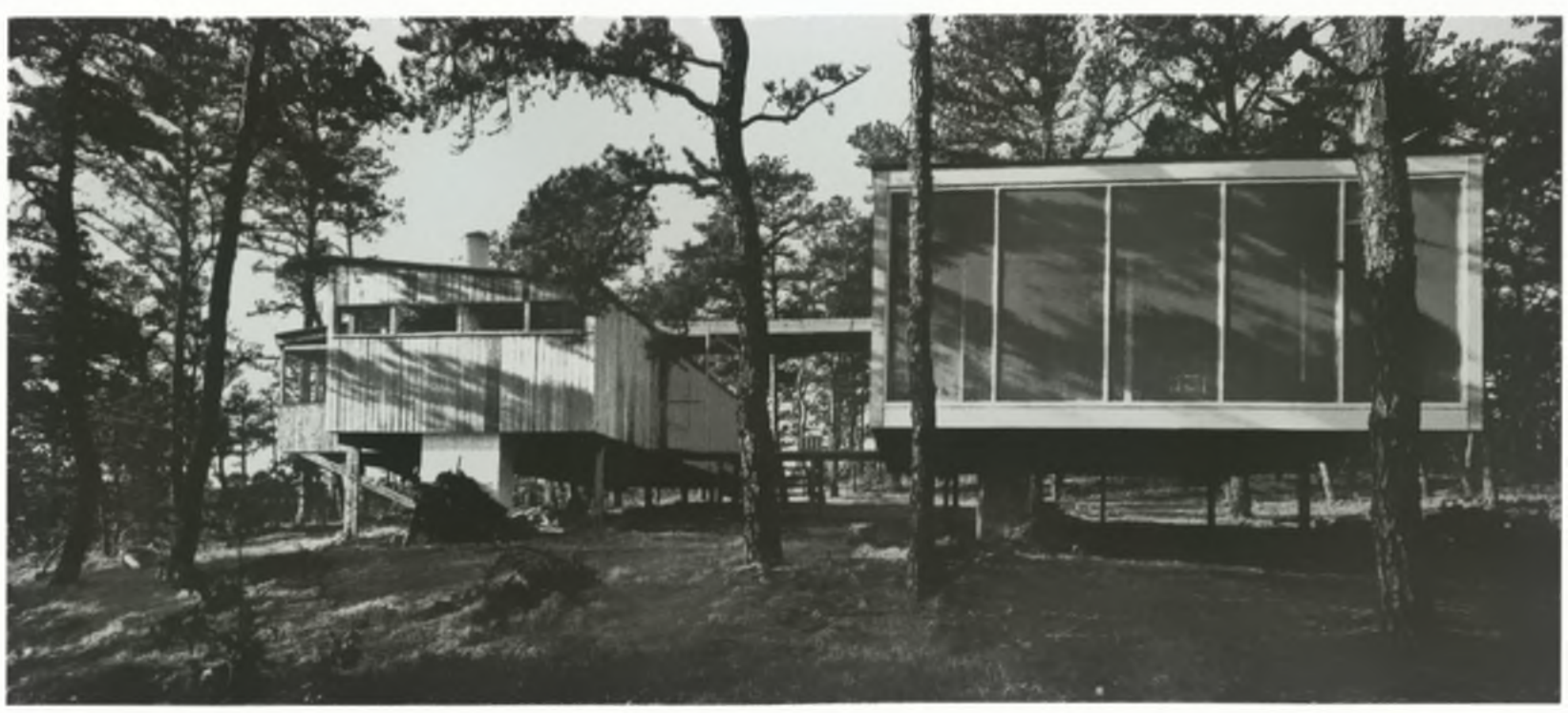
29. Breuer Cottage, Wellfleet, Massachusetts, 1948–49

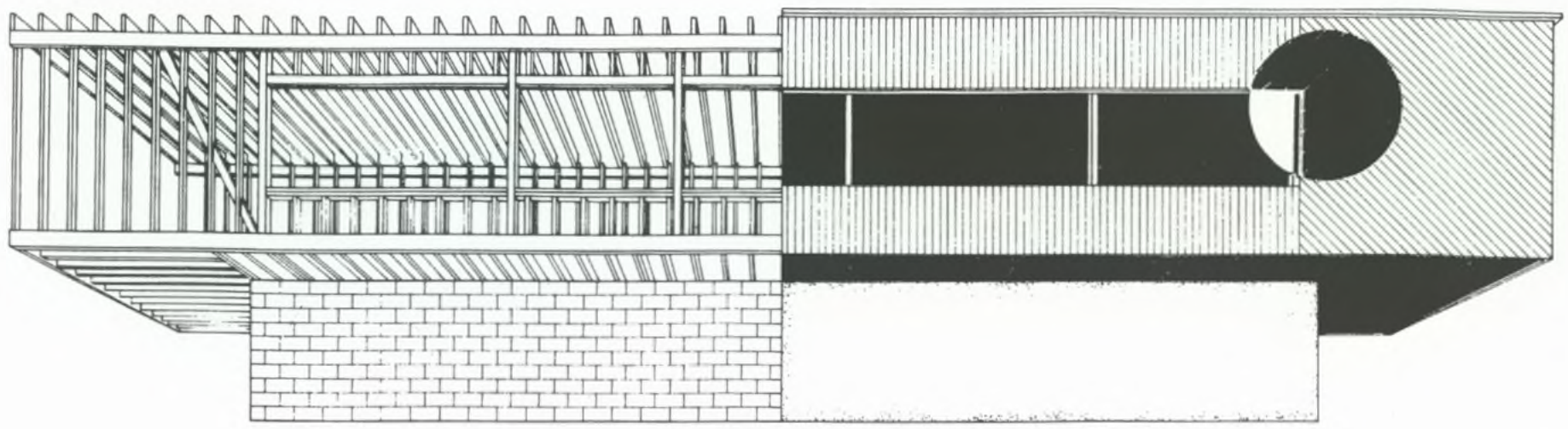
30. Breuer House – New Canaan I, Connecticut, 1947–48

31. Marcel and Connie Breuer on the terrace of the Breuer House – New Canaan I, 1949

Over the next few years, Breuer's growing practice would bifurcate between individual family houses – in ever greater demand, and each a bespoke commission even if the designs could be classified into "families" of solutions and compositions – and larger (and larger-scale) commissions for public buildings and complexes, which would ultimately lead him back to investigations into prefabrication and replicable building types. The individual houses are too numerous to examine here in any detail, but the chief themes of Breuer's evolving engagement with the single-family dwelling can be tracked in the series of homes that he built for himself and his own growing family.

In Dessau, Breuer had imagined a highly engineered, prefabricated atelier of steel, intended as a dwelling for the single artist (fig. 28). In the Lincoln house, which he built for himself and his young wife, Connie, Breuer brought together one of his richest collages of materials and allowed the ground-floor spaces to flow into one another. The same year as the MoMA house, Breuer designed summer cottages for himself and a good friend, the influential Hungarian émigré artist, designer, and theorist of visual experience György Kepes, at Wellfleet, on Cape Cod, buildings that defined a vision of a modernist yet rustic way of occupying the woods (fig. 29). Perhaps the most radical and daring of Breuer's house designs, however, was the one he built for his family in 1947 in New Canaan (figs. 30, 31), a suburban Connecticut town that was rapidly emerging as a locus for the modernist





architects who had trained at Harvard and were establishing themselves in New York (most famously Breuer's former student Philip Johnson, but also Eliot Noyes, who worked briefly with Breuer, Landis Gores, and others). In Breuer's house, the system of laying up plywood to form a strong envelope over a trusslike, wood-stud box frame was carried to an extreme, as he cantilevered the house off a freestone rubble base and, in turn, cantilevered an ample open balcony off the living-room end of the box (fig. 32), floating it dramatically above the ground with just a few tension cables. The dream of floating on air as envisioned in Breuer's Bauhaus film poster was finally carried into architecture. The levitation was short-lived, however; the terrace began to sag shortly after construction began and, threatening collapse, was soon shored up by a stone wall, inserted below.

In 1951 the Breuers moved to a new, and final, residence in New Canaan (fig. 33). This, too, was a wood box, but now of simple construction, and earthbound. From the road, the house was discreetly masked by closed walls of rough masonry, echoed in the sliding organization of subtle terraces stepping down the slope of the backyard on the hillside site. This arrangement would become a mode for many of Breuer's houses for the next few years. Although his practice began to focus more and more on large-scale endeavors and he took on fewer of these types of commissions, some of his grandest single-family homes date from this period, including the Gagarin House in Litchfield, designed for Rufus Stillman's business partner, and the 7,000-square-foot lakefront home built for the family of art collector Edith Ferry Hooper in Baltimore, with whom Breuer had a long association (fig. 34).

32. Plan of Breuer House – New Canaan I

33. Breuer House – New Canaan II, 1951

34. Hooper House II, Baltimore, 1957–59

The Sacred and the Sacrosanct

By the early 1960s Breuer's office was focused overwhelmingly on large-scale projects, such as the IBM Research Center at La Gaude, in the south of France (fig. 35), for which Breuer and his colleagues developed sophisticated heavy prefabrication systems for constructing buildings in concrete. Before turning to the dramatic change in the scale of Breuer's projects from the mid-1950s until his retirement, in 1976, it is important to note that for Breuer, the tubular steel and molded plywood of his early designs and the raw concrete for which he became known in his later career were analogous vehicles of expression. In that regard, there is a strong continuity throughout his oeuvre of experimentation and visual contrasts: not only between grounded and floating, closed and open, but more broadly between the sculptural houses – such as his own first residence in New Canaan – and the great office buildings of hollowed-out concrete that cantilevered out over the landscape, as at La Gaude, or out over the city, as at the Whitney.

Breuer's architectural practice reached a turning point during a few months from 1952 to 1953, when two sudden and unexpected commissions came to his firm (renamed Marcel Breuer and Associates in 1956). The first shock was its selection by an international committee of architects (including Gropius) to design the Paris headquarters of UNESCO. Coveted by Le Corbusier, the commission was instead granted to Breuer and the French designer Bernard Zehrfuss, in collaboration with an Italian structural engineer, Pier Luigi Nervi. Then, in March 1953, a letter arrived at Breuer's New York office from Baldwin Dworschak, a Benedictine abbot and the head of Saint John's Abbey and University, in Collegeville, Minnesota. Breuer was invited to attend interviews as the abbey sought to rebuild its church and expand its campus, located in the wooded back-country northwest of Minneapolis. These two commissions would forever change Breuer's practice, requiring a new regimen of frequent air travel and the hiring of more associates; Hamilton P. Smith and Robert F. Gatje would play lead roles on the abbey project. There would also be greater responsibilities for consulting engineers, as Breuer increasingly envisioned dramatic new structural possibilities. And while Breuer was already well known from the attention paid to the MoMA house and to the Geller House of

35. Breuer on site at the IBM Research Center, La Gaude, France, 1963

36. UNESCO Headquarters, Paris, Place de Fontenoy, 1955–58

1945, in Lawrence, Long Island, the UNESCO and Saint John's commissions greatly increased his visibility in the press and catapulted him into controversies surrounding the appropriateness of modern architecture both for sacred buildings and within the sacrosanct historical setting of central Paris (fig. 36).

The search for sculpturally expressive monumental forms that could embrace serial normality and the heroics of modern engineering became the major theme of Breuer's work for the next three decades. This vision was as evident in the UNESCO Headquarters as in the first building group at Saint John's, as the two projects were developed in tandem. In Paris, the powerful canted forms of the UNESCO Conference Building – built using plaited concrete, a technology that married Nervi's engineering expertise with Breuer's explorations of the structure of shaped walls – played off the glazed curtain wall of the Y-shaped Secretariat, which was raised on powerful concrete *piloti* (figs. 37, 38). The same could be said of the contrast between the similarly formed Abbey Church, with its sculptural bell banner (fig. 39), and the repetitive cells of the nearby monastery block and, later, the student residence halls on campus.

The daring spans that Nervi helped Breuer create offered monumental presence yet economically thin sectional depth. These new sculptural forms expressed the complex geometry of ruled surfaces – as in the hyberbolic paraboloid entrance canopy of the Secretariat – while also transferring load efficiently. The inclined *piloti*, for example, lift the Y-shaped Secretariat block over the ground, creating a generous lobby space. Glazed on both sides, it offers full views over the UNESCO grounds and its impressive collection

37. UNESCO Conference Building (left) and Secretariat (right)

38. Breuer (second from left) and associates during the planning of the UNESCO Headquarters, ca. 1954

39. Campanile and Church, Saint John's Abbey and University Complex, Collegeville, Minnesota, 1958–61

of contemporary art, which includes sculptures by Joan Miró, Henry Moore, Alexander Calder, and Isamu Noguchi.

For Breuer, the collaboration with Nervi in Paris proved transformative. The ten great serrated buttresses of the UNESCO assembly hall's concrete walls were translated, at Collegeville, into twelve, perhaps symbolic of the apostles (fig. 40). These pleated folds increase in all dimensions – width, depth, and thickness – as they cross successively broader segments of the bell-shaped plan. In the course of design, the strict, straight line gave way to a subtle curve, "just enough to recede into infinity," according to Father Hilary Thimmesh, president of Saint John's University from 1982 to 1991.[5] The longest fold, immediately inside the front door, accomplishes a clear span of more than 135 feet, soars 15 feet from top to bottom, and has walls that vary in thickness between 6 and 8 inches. The effect of all this diagonal movement, enhanced by the floor, which slopes down toward the altar, is a subtle telescoping of space and great visual dynamism (fig. 41).

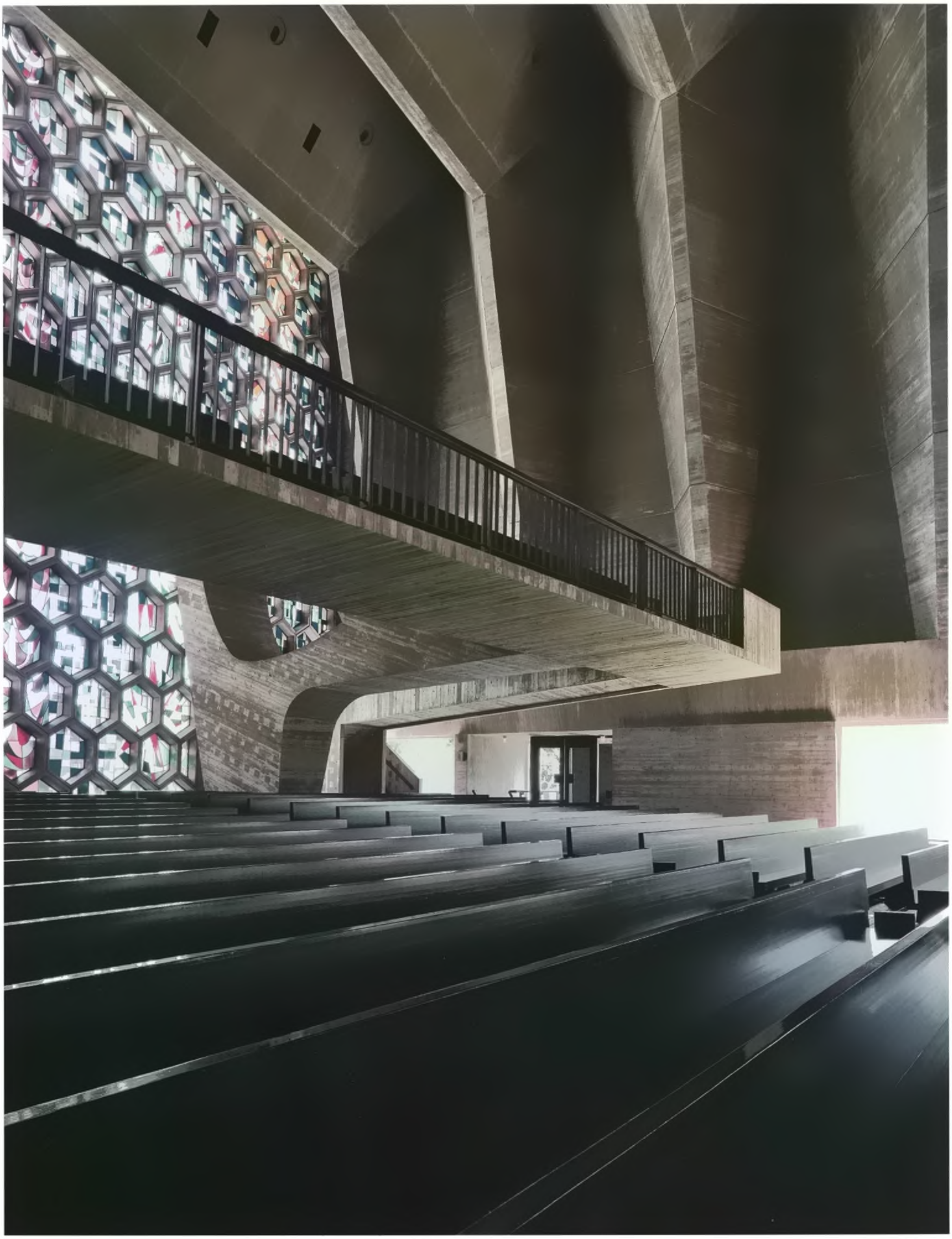
One of the most extraordinary outcomes of Breuer's collaboration with Nervi was the decision to lift the folded plates of the church into the air on a system of concrete buttress piers: the feature that distinguishes the sacred space of Saint John's Abbey from the earthbound UNESCO Conference Building. Immediately bringing to mind the buttresses of Gothic cathedrals, they are in essence a brilliant reversal of the system of loads in Gothic

40. Saint John's Abbey Church, showing folded concrete wall

41. Saint John's Abbey Church, interior of sanctuary

architecture, bringing the clerestory to the ground. Breuer also extended the interior space of the church to the modernist cloister gardens on either side, a horizontal complement to the vertical expansion of space.

"Buildings no longer rest on the ground," Breuer explained in a 1963 lecture at the University of Michigan. "They are cantilevered from the ground up. The structure is no longer a pile – however ingenious and beautiful – it is very much like a tree, anchored by roots, growing up with cantilevered branches, possibly heavier at the top than at the bottom." He concluded the lecture, titled "Matter and Intrinsic Form," by advocating for an architecture in which sculptural form and its space-making capabilities would lead to a fundamental enrichment of the modern movement beyond its earlier obsession with new materials. True to his admonition, in Breuer's use of marble at Saint John's or in the richly patterned granite of the Whitney – his next headline-grabbing commission – he sought to bring modern architecture into a realm of symbolic expression that until then had been reserved for older styles. "With the rebirth of solids next to glass walls, with supports which are substantial in material but not negligent in structural logic . . . a three dimensional modulation of architecture is again in view; the brother or lover of our pure space. Although not resting on lions or acanthus leaves, space itself is again sculpture into which one enters."[6]



Borden's
ONE WAY

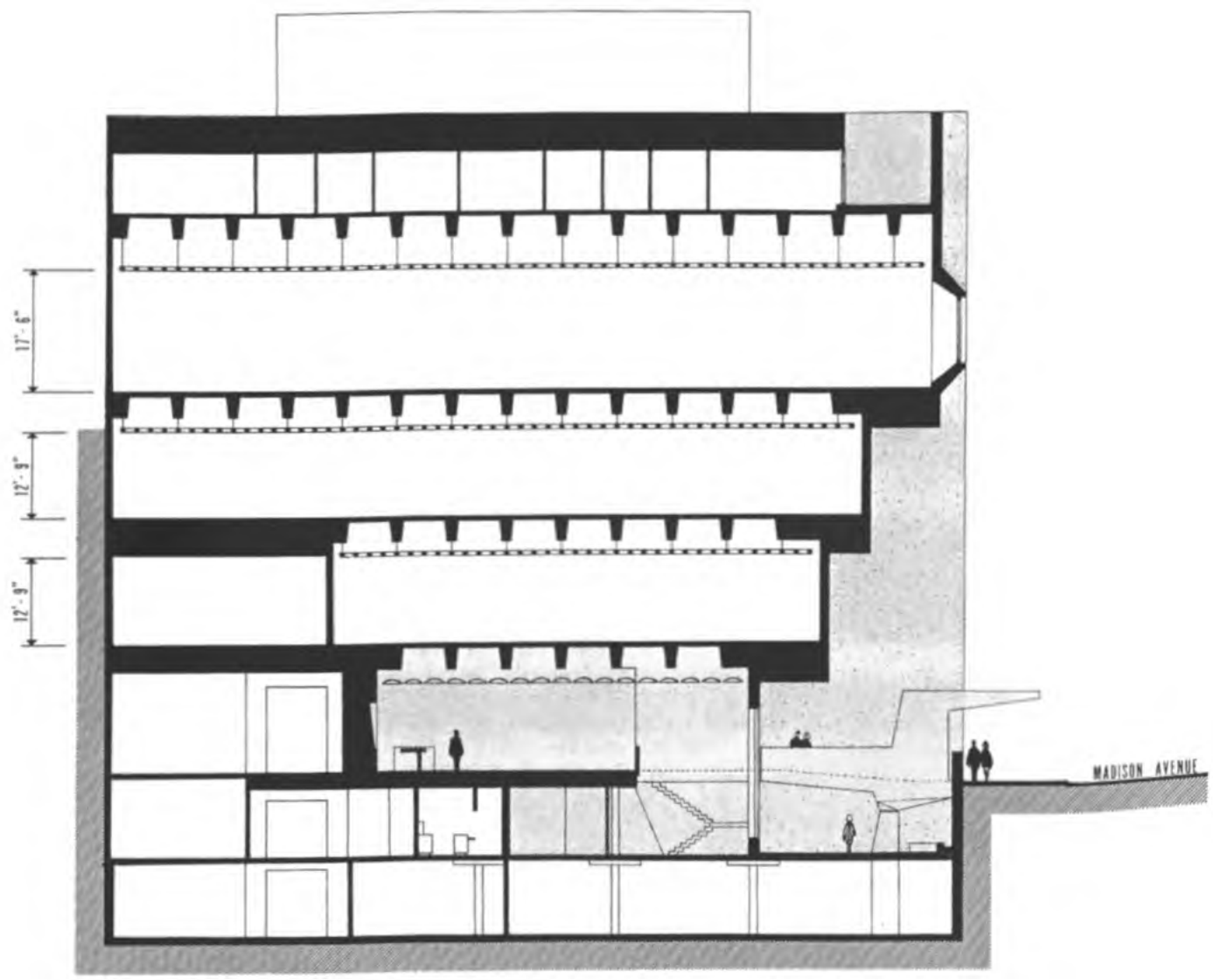
42. Whitney Museum of American Art, 1964–66

43. Section

Heavy Lightness: A New Building for the Whitney

Perhaps no building better exemplifies Breuer's newfound aesthetic of "heavy lightness" than the Whitney. In June 1963, after only eight years in a building designed for them by Philip Johnson at West Fifty-Fourth Street – on land donated by MoMA and adjacent to its own expanding campus – the Whitney's trustees decided to get out from under their more famous neighbor (and occasional rival) and establish a new presence for American art on Manhattan's Upper East Side, the heart of the postwar gallery scene. Selected over a host of well-known architects, including I. M. Pei, Louis Kahn, and Johnson, Breuer quickly appreciated the challenges of the commission and, after a weekend at home in New Canaan, returned with his design for the inverted ziggurat. The museum would be clad in flame-treated granite and would loom out dramatically over the corner of Madison Avenue and East Seventy-Fifth Street (fig. 42).[7] Without violating any building or zoning codes, Breuer took the famous setback skyscrapers of the 1920s and 1930s – as well as the white-brick apartment houses then sprouting up everywhere on the East Side during its residential building boom – and turned them upside down (fig. 43). His solution was decidedly singular but also clearly a piece of New York's urban fabric.

When Breuer presented his design to the Whitney trustees on November 12, 1963, he began his remarks with a question: "What should a museum look like, a museum in Manhattan?" He continued, "It is easier to say first what it should *not* look like. It should not look like a business or office building, nor should it look like a place of light entertainment. Its form and its material should have identity and weight in the neighborhood of fifty-story skyscrapers, of mile-long bridges, in the midst of the dynamic jungle of our colorful city. It should be an independent and self-relying unit, exposed to history, and at the same time it should have visual connection to the street, as it deems to



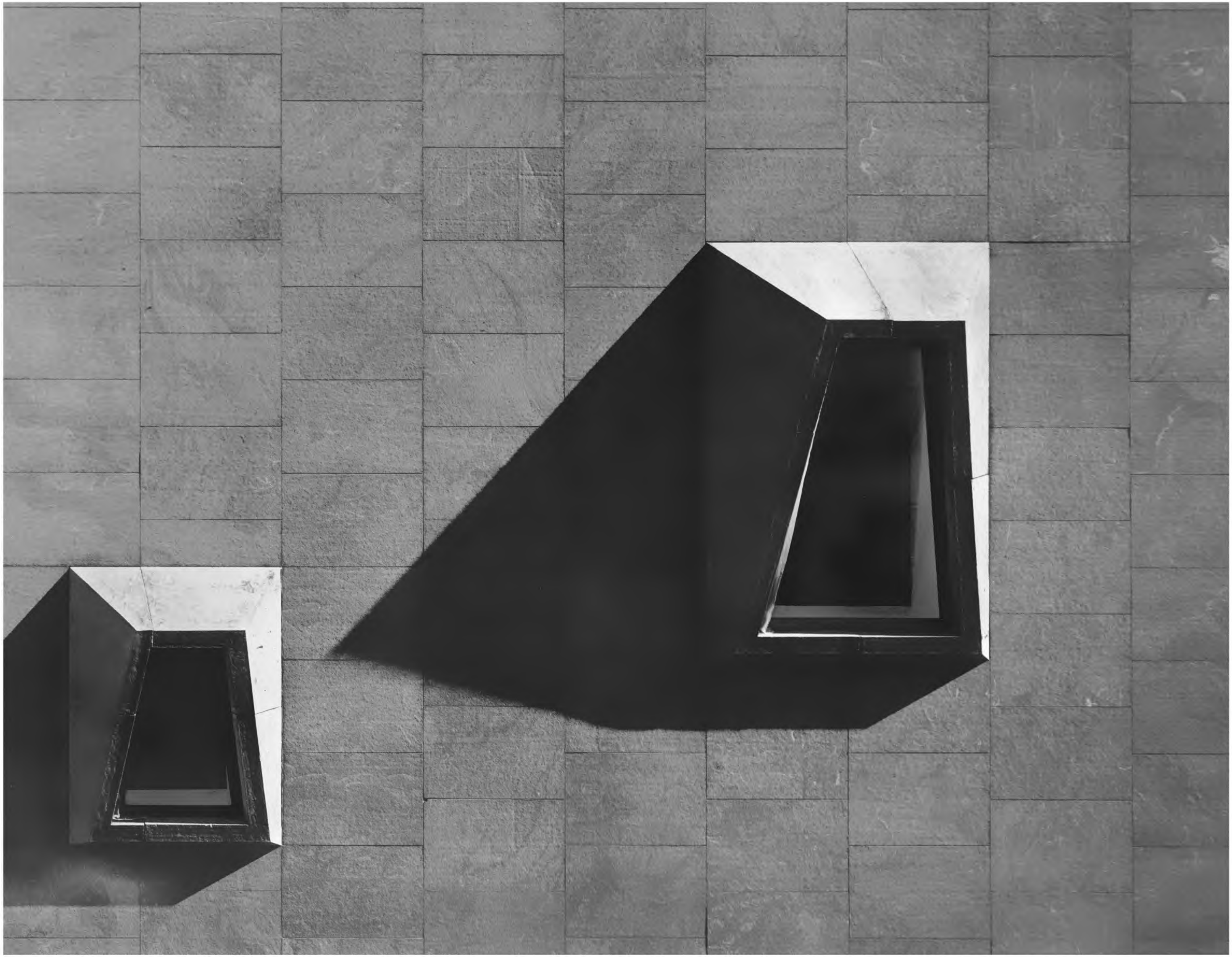
44. Entrance bridge, canopy, and sunken sculpture court

45. Exterior

be the housing for twentieth-century art. It should transform the vitality of the street into the sincerity and profundity of art."[8]

To enter Breuer's museum, one takes a sidewalk via a bridge, announced by a cantilevered canopy, under the overhang of the upside-down ziggurat and into a lobby with a gridded ceiling of circular lighting fixtures (fig. 44; see also fig. 51 and illustration on pages 4–5). Although his design resonated with the emerging Minimalist impulse in 1960s sculpture, Breuer was thinking more in terms of the stakes of history and symbolism, which had entered the internal critique of modernism, along with debates on monumentality, in the mid-1940s. "Today's structure in its most expressive form is hollow below and substantial on top – just the reverse of the pyramid," Breuer told his friend Peter Blake in 1964. "It represents a new epoch in the history of man, the realization of one of his oldest ambitions: the defeat of gravity."[9] Using exposed bush-hammered concrete fin walls to separate his granite-faced, cantilevered sculpture from the Whitney's neighbors (fig. 45), Breuer cut out the urban equivalent of the white-box gallery, so beloved by the Minimalists, and asserted the singularity of culture, creating an aura that would protect art from the nearby commercial world and convey a sense of remove from the quotidian.

Working with structural engineer Paul Weidlinger, Breuer lifted the stepped, cantilevered mass above a glazed, recessed ground floor. The world of the sidewalk and that of the sales counter, on axis with the entrance, would be connected by a fixed "drawbridge." He also inserted large panes of glass into the recessed stair tower between the inverted

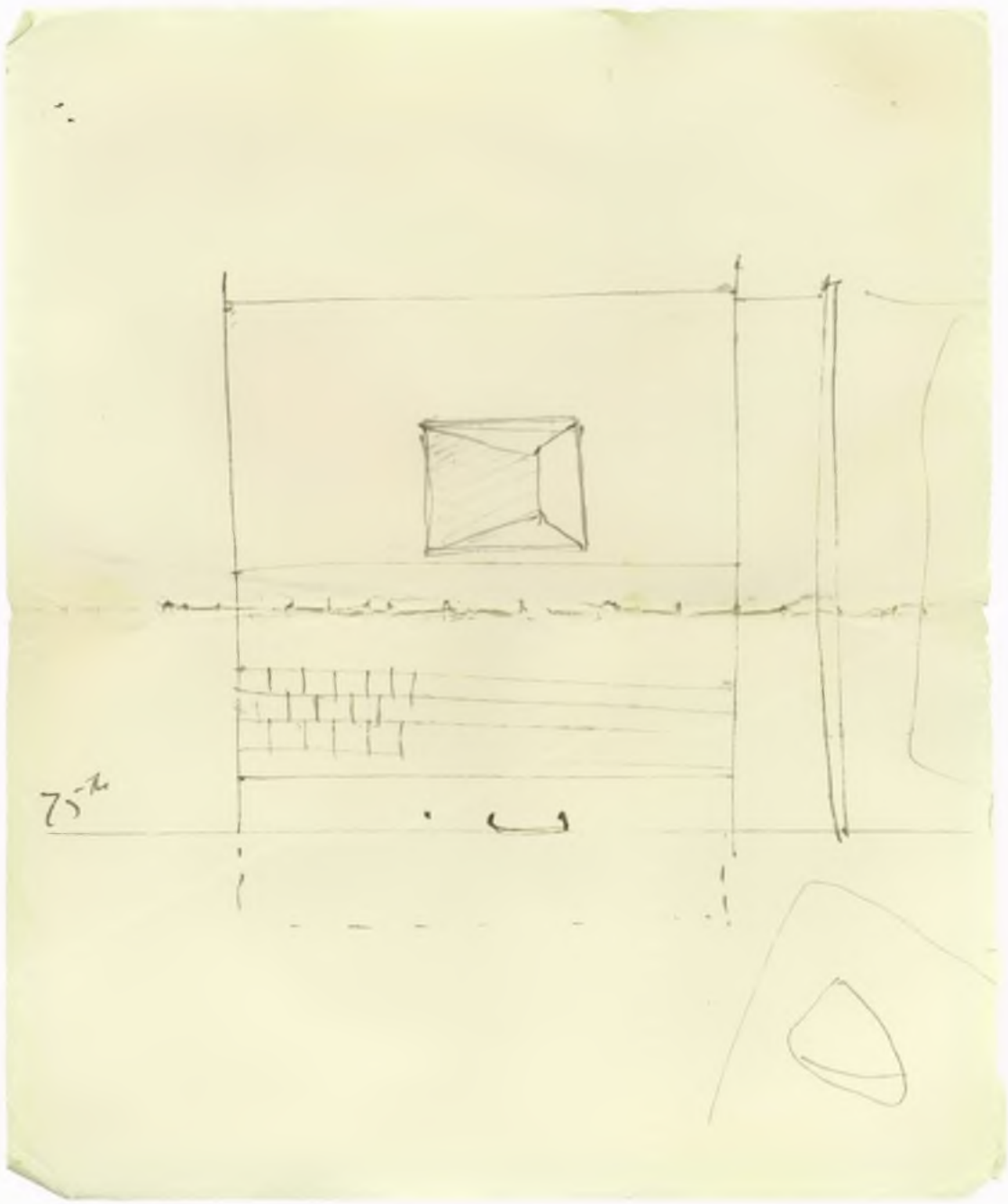


46. Trapezoidal windows above Seventy-Fifth Street

47. Sketch of the facade on the reverse of a letter to Breuer from Louis Kahn, 1963

ziggurat and the midblock fin wall, part of a carefully controlled dialogue between interior and exterior that would continue in the stair. These "servant spaces," as Kahn referred to them, were converted into the places of greatest connection between the ritual of the museum visit and life outside (see illustration on p. 40). With each switchback the great windowpanes of the stair provide changing views of the Madison Avenue streetscape, the first in a series of staccato, framed vistas.

Once inside the galleries, the visitor discovers the visual echo of those glimpsed views: the enormous trapezoidal "eyelid" windows freely attached, like mysterious ornamental brooches, to the blocky exterior (figs. 46, 47). To keep the immense planes of glass in the trapezoidal windows from conflicting with his emphasis on artificial light for the display of art, Breuer designed the windows to angle out, providing somewhat uncanny vignettes of the city and glimpses of sky while also avoiding any capricious play of light amid the inner sanctuary. Breuer thus created a building of deliberately contrasting experiences: between a lobby based on an ideal of flow and spatial excitement in which architecture, large-scale public sculpture, and the city itself converse, and the upper floors, where attention is focused inward. The largest uninterrupted expanse, and the loftiest ceilings, were reserved for the fourth-floor gallery, which provides a full 118 feet of clear space before the installation of a movable system of dividing panels. This floor also houses the largest of Breuer's trapezoidal windows – and the only one on the Madison Avenue front – which frames a view of New York as an unfinished work of urban art.



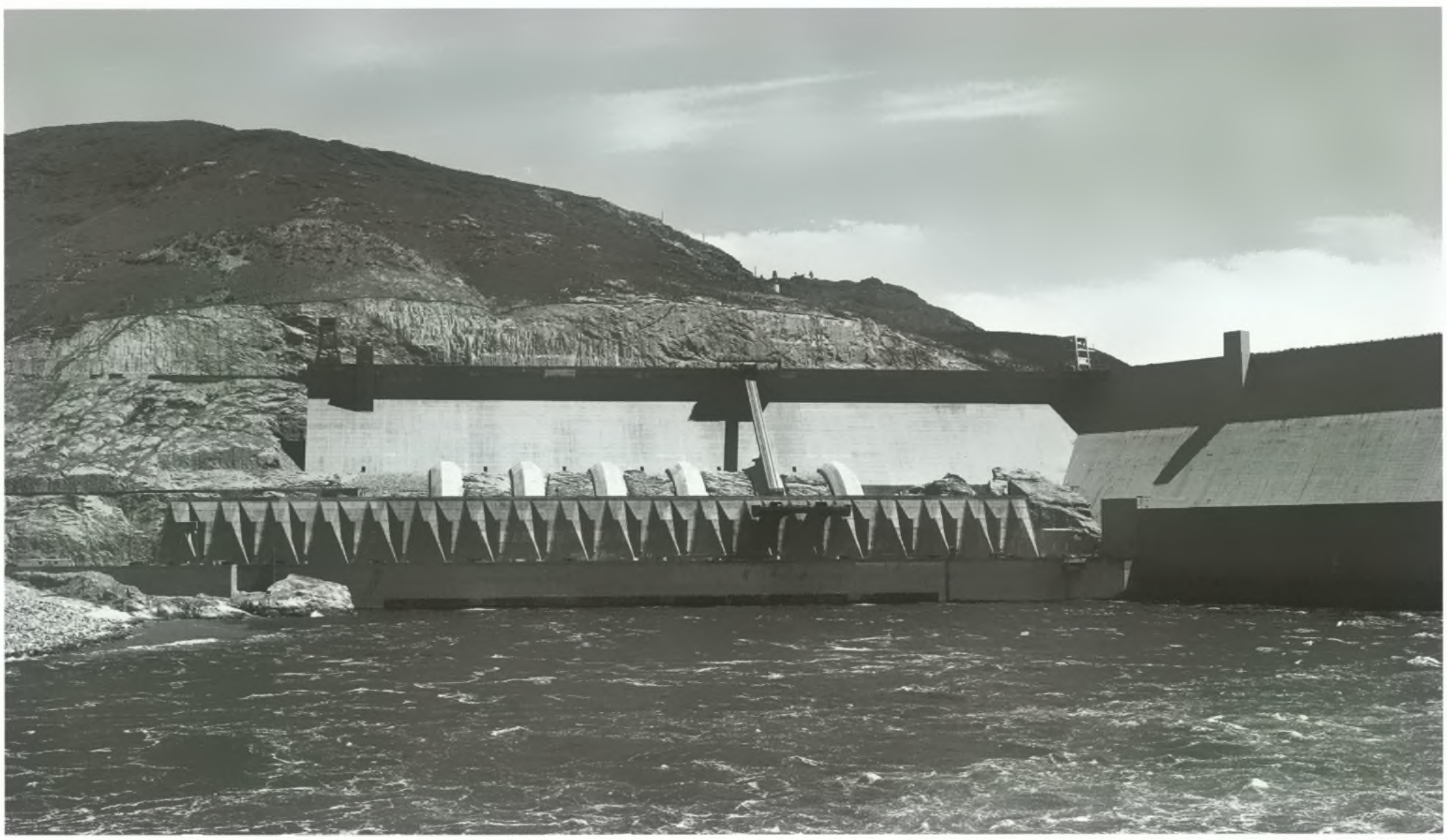
Late Projects

The Met Breuer, as the former Whitney building is known today, brings us back full circle not only to Breuer's experiments in his early Bauhaus days with vision and viewing, but also to the idea of levitating, of sitting on air. His inverted ziggurat floats over the open space of the lobby, which is at once set off by a bridge but is also, visually, an extension of the sidewalk. The building represents a moment when its designer engaged with the city as never before. An astonishing form, it surprises even seasoned New Yorkers as we walk or drive up Madison Avenue and its unmistakable profile suddenly comes into view, transforming a Manhattan corner into a complex dialogue between a solid, closed form and a transparent, penetrable base.

The Whitney building was a capstone of perhaps the most productive and inventive phase of Breuer's career, one that included the laying out of an entire "artistic" ski resort in the French Alps at Flaine (fig. 48) as well as other sculpturally expressive religious buildings, including a priory for Benedictine nuns in Bismarck, North Dakota (1967–68), and a convent at Baldegg, near Lucerne. There was also a series of commissions for IBM; headquarters for the Department of Housing and Urban Development and for the Department of Health, Education, and Welfare in Washington, D.C., another cityscape resistant to modern innovation (fig. 49); and an addition to the Cleveland Museum of Art whose boldly striped facade in part reflects Breuer's fascination with the medieval cathedral at Orvieto.[10]

In Breuer's final two projects, he continued to engage with the idea of heavy lightness in dramatic ways. The visitor center for the Grand Coulee Dam, Washington (fig. 50), with its powerful Egyptoid forms, is arguably the most monumental building of Breuer's long career. The fate of his last building, the remarkable levitating box of the Atlanta Central Library, is now the subject of an ongoing debate. Both are realizations of Breuer's quest, beginning in the workshops of the Bauhaus, to push materials to their limit in terms of performance and design. Like those buildings, The Met Breuer is one of the most astounding creations of an architect who trained as a carpenter in the studios of the Bauhaus forty years earlier.

48. Hôtel Le Flaine, near Chamonix, France, 1961–76

49. Headquarters, U.S. Department of Health, Education, and Welfare (Hubert H. Humphrey Federal Building), Washington, D.C., 1972–76

50. Third Power Plant and Forebay Dam, Grand Coulee Dam, Columbia Basin Project, Washington, 1972–75