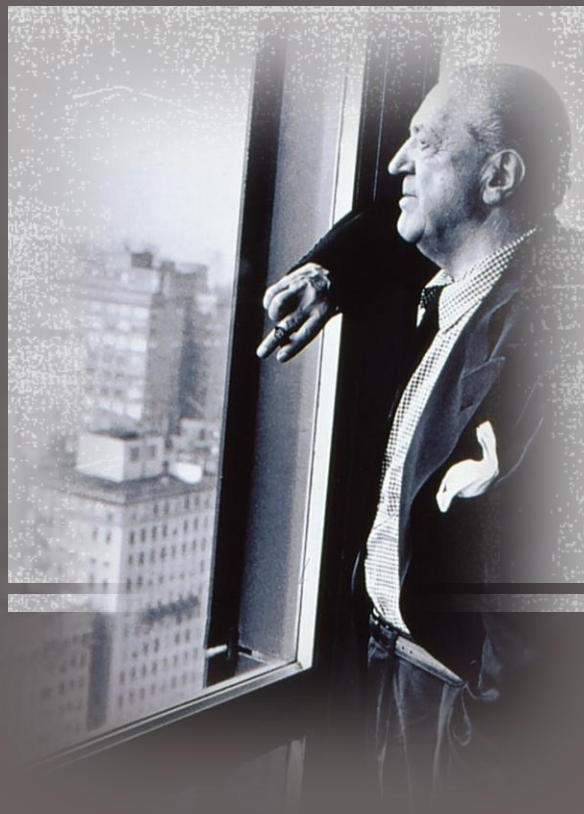


MIES IN AMERICA FROM CHICAGO TO NEW YORK

MIES IN AMERICA

- The process of crystallization, giving permanent form and structure to a substance, and the phenomenon of transparency together define the physical and poetic reaches of Mies's art. Within ten years after arriving in America, he had forged the prototypes for his two major built form from the industrial steel section and the transparent substance of glass: the Miesian clear-span and high-rise would become iconic forms of twentieth-century architecture.

MIES IN AMERICA


Project: Illinois Institute of Technology, Chicago. 1940. Final scheme

Designing the campus and buildings for the Illinois Institute of Technology was the crucible that defined Mies's American oeuvre, presenting him with a rare opportunity, perhaps comparable only to the challenge met by Thomas Jefferson in designing the University of Virginia. Unlike Jefferson 's Neoclassical campus set amid the rolling, verdant landscape of Eighteenth century Virginia, Mies was called upon to insert a modern campus for an evolving institution devoted to technological education into the flatlands of the dense urban slums on Chicago's Near South Side.

MIES IN AMERICA

T.Jefferson University of Virginia, 1817-26.

L. Mies Van der Rohe, IIT Chicago,

In September 1938 in his inaugural address ad Director of Architecture at the Armour Institute of Technology (Illinois Institute of Technology soon after) Mies said:

MIES IN AMERICA

"in its simplest form architecture is entirely rooted in practical considerations, but it can reach up through all degrees of value to the highest realm of spiritual existence, into the realm of the sensuously apprehendable, and into the sphere of pure art".

MIES IN AMERICA

In the Minerals and Metals Research Building (1942-43), his first American construction, Mies's use of the I-beam mullion was born. Mediating between skin and structure, masked by a continuous brick spandrel and a translucent glass wall, the relationship of mullion to structure was exposed only at the exterior end wall.

Mies entered the Berlin office of Peter Behrens in October of 1908, at that time Behrens was working on the AEG Turbine Hall and industrialization, much debated in architectural circles, was either demonized for producing the "lowest form of life that has ever existed" or valorized in utopian terms.

MIES IN AMERICA

"Whether or not technology can succeed in becoming a means to an expression of culture rather than remaining an end in itself is therefore a question of great historical importance."
P.Behrens, 1922, "Die Form".

MIES IN AMERICA

Mies and the industrial architecture

- In his article “Industrielle Bauten” (“G”, June 1924) Mies wrote
- “ I hold that the industrialization constitutes the core problem of our time. If we are successful in carrying out the industrialization , then the social economic, technical, and even artistic questions will solve themselves.”

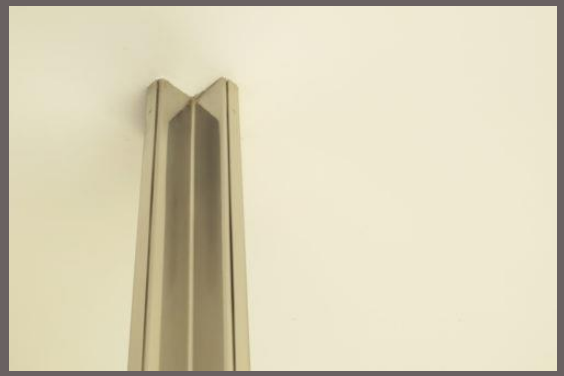
W.Gropius, A.Meyer, , Fagus Factory, 1911.

MIES IN AMERICA

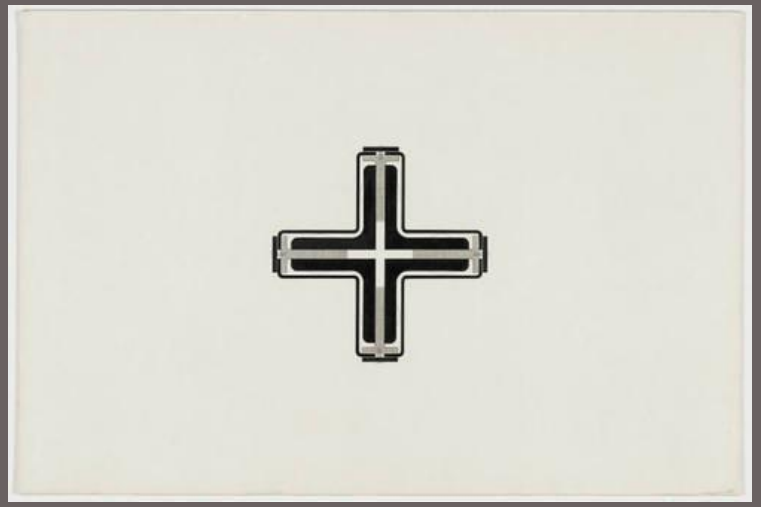
Mies's drawings of the late 1920s show the use of the steel sections, though they are hidden in the beams of the Mosler House in Berlin (1924-26) as well as in the project for the Weissenhofsiedlung and the roof framing of the Tugendhat House and Barcelona Pavilion.

MIES IN AMERICA

The German Pavilion, Barcelona, 1929, the steel column.



The columns of the German pavilion and Tugendhat Villa were masked, encased in highly polished chromed-bronze sheet metal.

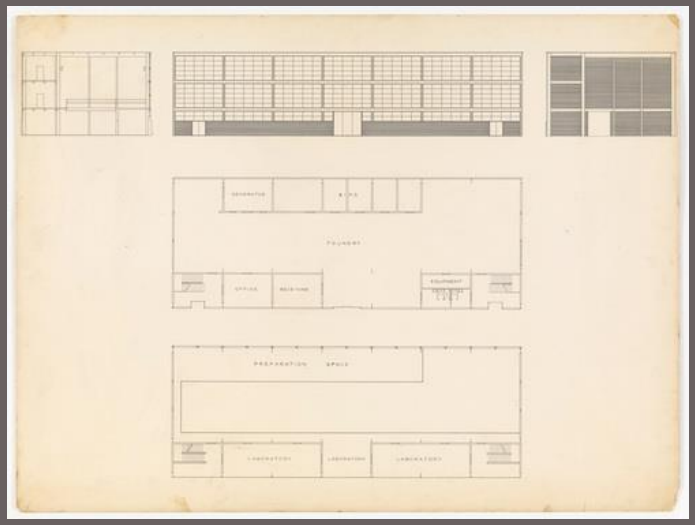


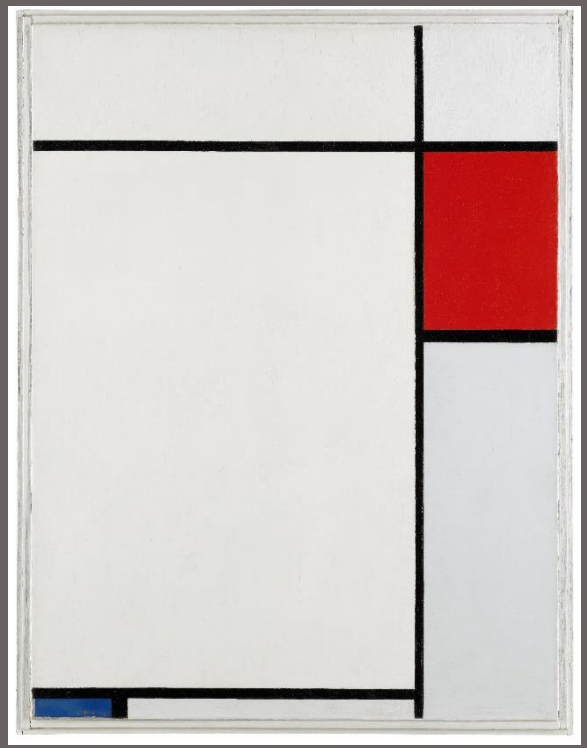
MIES IN AMERICA

Although the building is visually reminiscent of the Bauhaus in Dessau, its structural premises are very different. It is in the Minerals and Metals Building that we first see Mies use the rolled-steel I-beam as part of his structural grammar.

MIES IN AMERICA

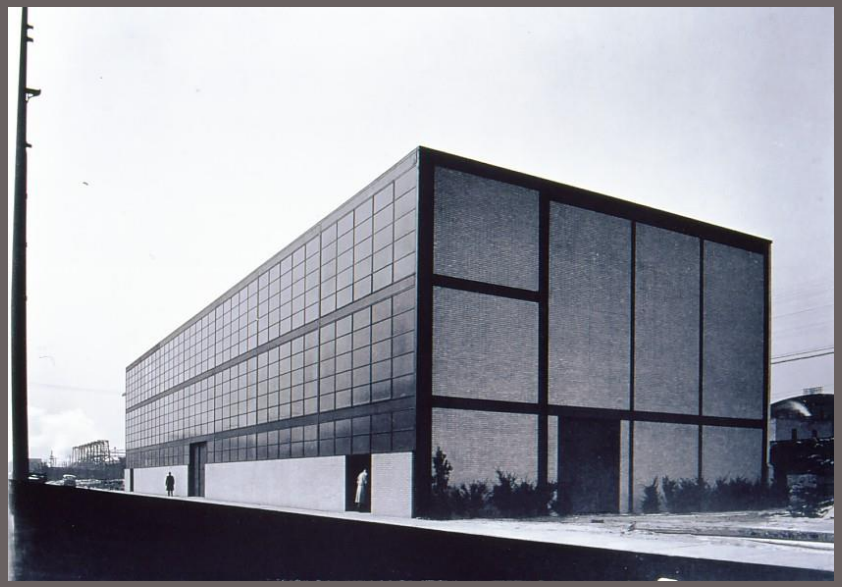
As his first American building, Minerals & Metals , 1942-43 (IIT Campus) reflects Mies' transition from forms that had been "dear to his heart" during his days working in Europe to new forms that were "possible, necessary, and significant."

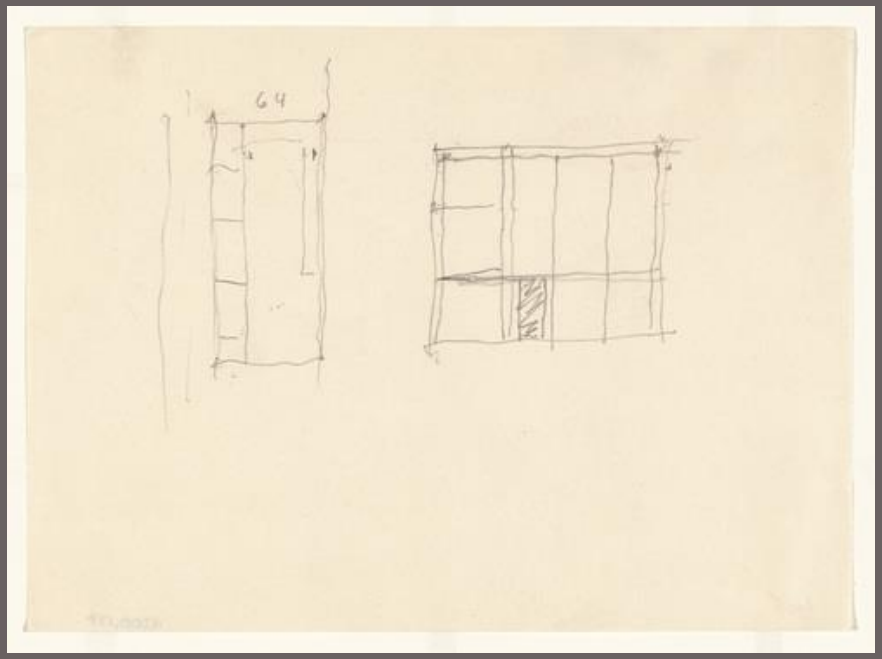




MIES IN AMERICA

The adoption of the common rolled steel section as a prominently exposed architectural element did not, receive comment. Instead, the end wall was interpreted as a form of homage to De Stijl.

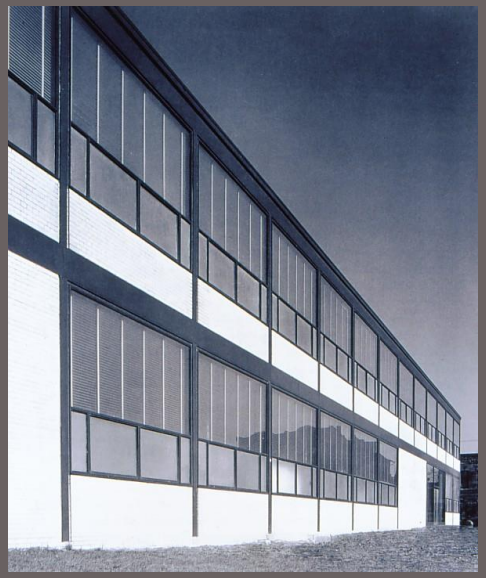




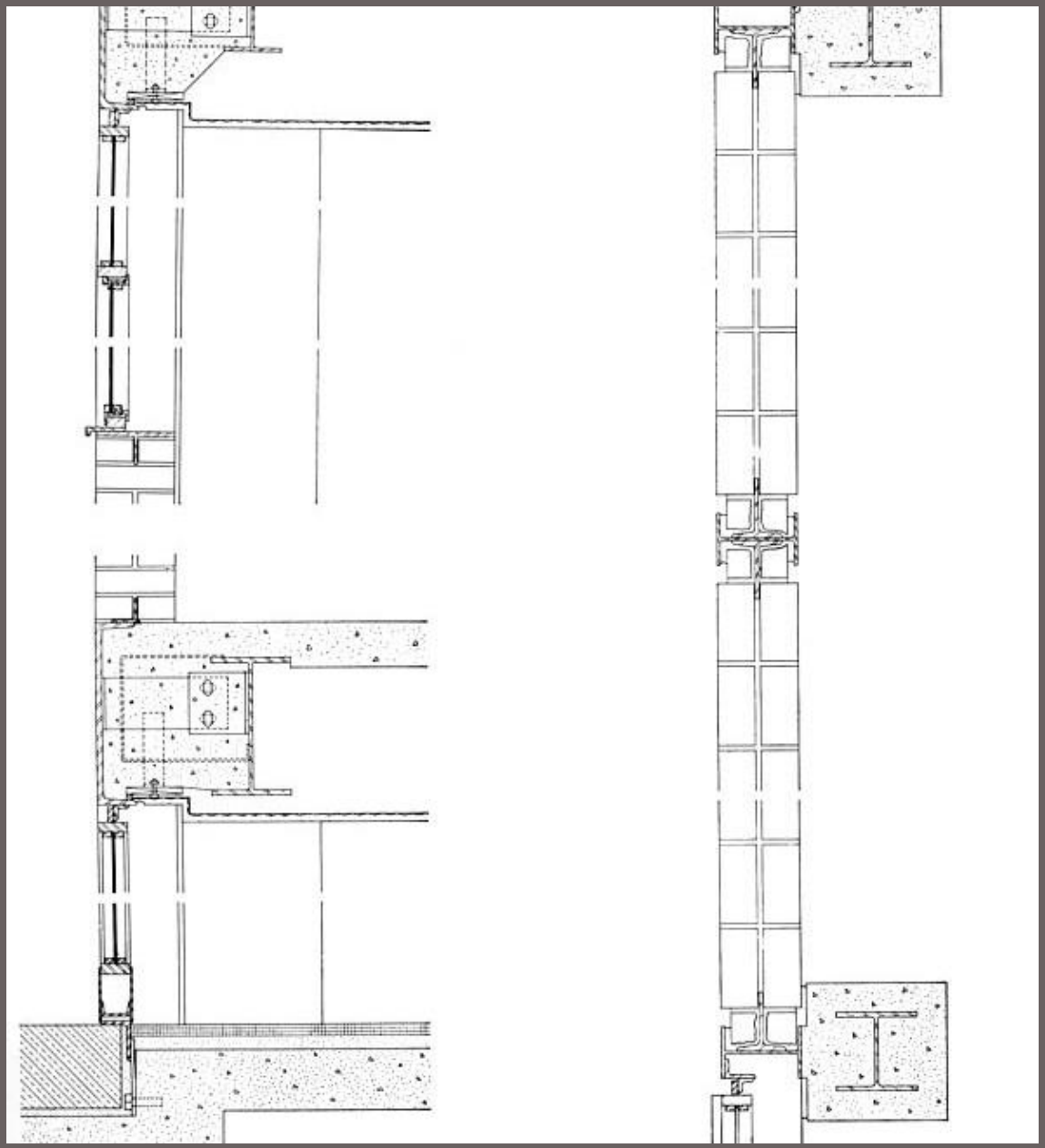
MIES IN AMERICA

While the works of Van Doesburg and Mondrian were known to Mies, the north end wall of the building should be read as a clear transcription of the frame circumscribing the functional rationale behind the distribution of space: the single volume of the foundry hall, the three stories of laboratories and offices.

MIES IN AMERICA

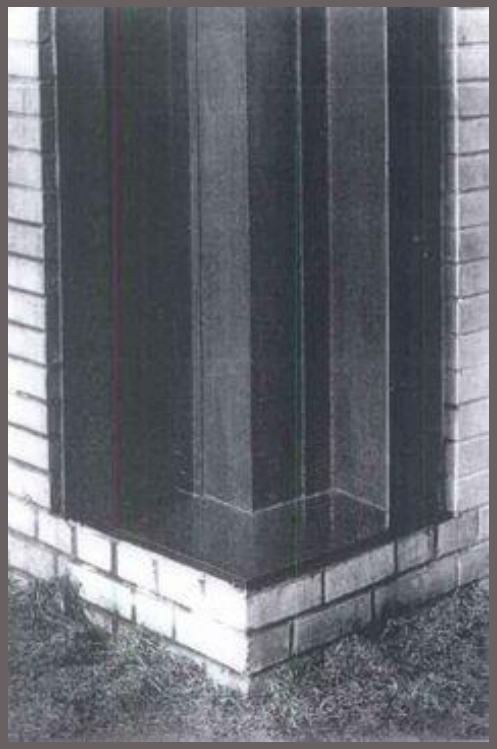


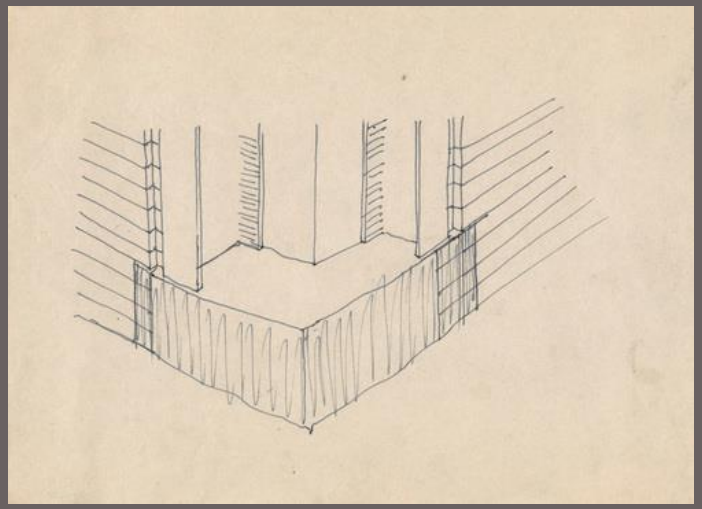
The Navy Building (Alumni Memorial) like Metallurgy and Chemical Engineering, was intended to house classrooms as well as a large, open, armory, and code required that the steel structure of the building be fireproofing. Mindful of the fact that , for the west wall of the Minerals and Metals Research Building the necessity for fireproofing had not resulted in an architectural solution, Mies sought one for the Navy Building.



MIES IN AMERICA

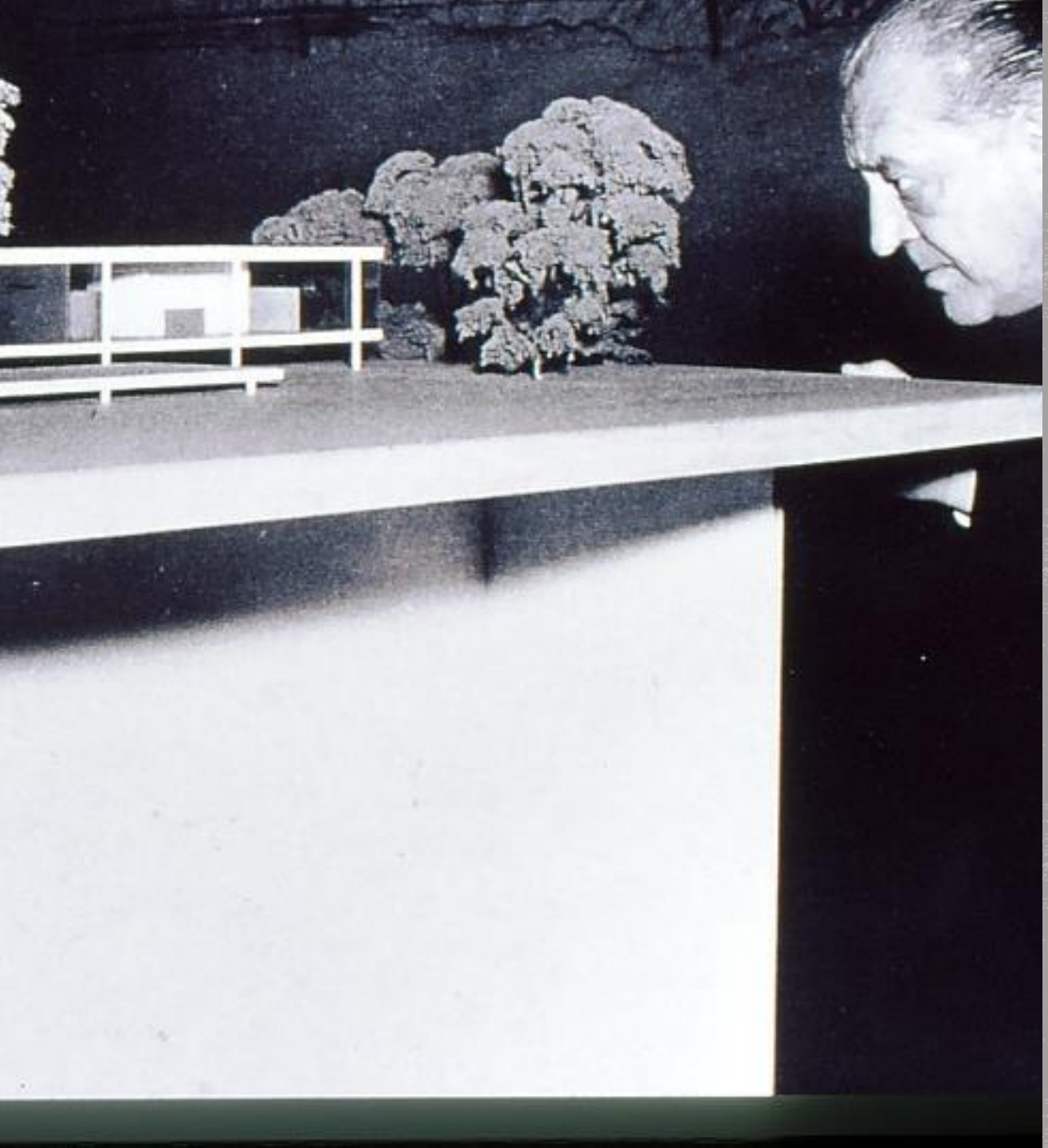
IIT Navy Building, the plan details show the relationship of the I-beam, glass and brick curtain wall to the fireproofed steel structure.





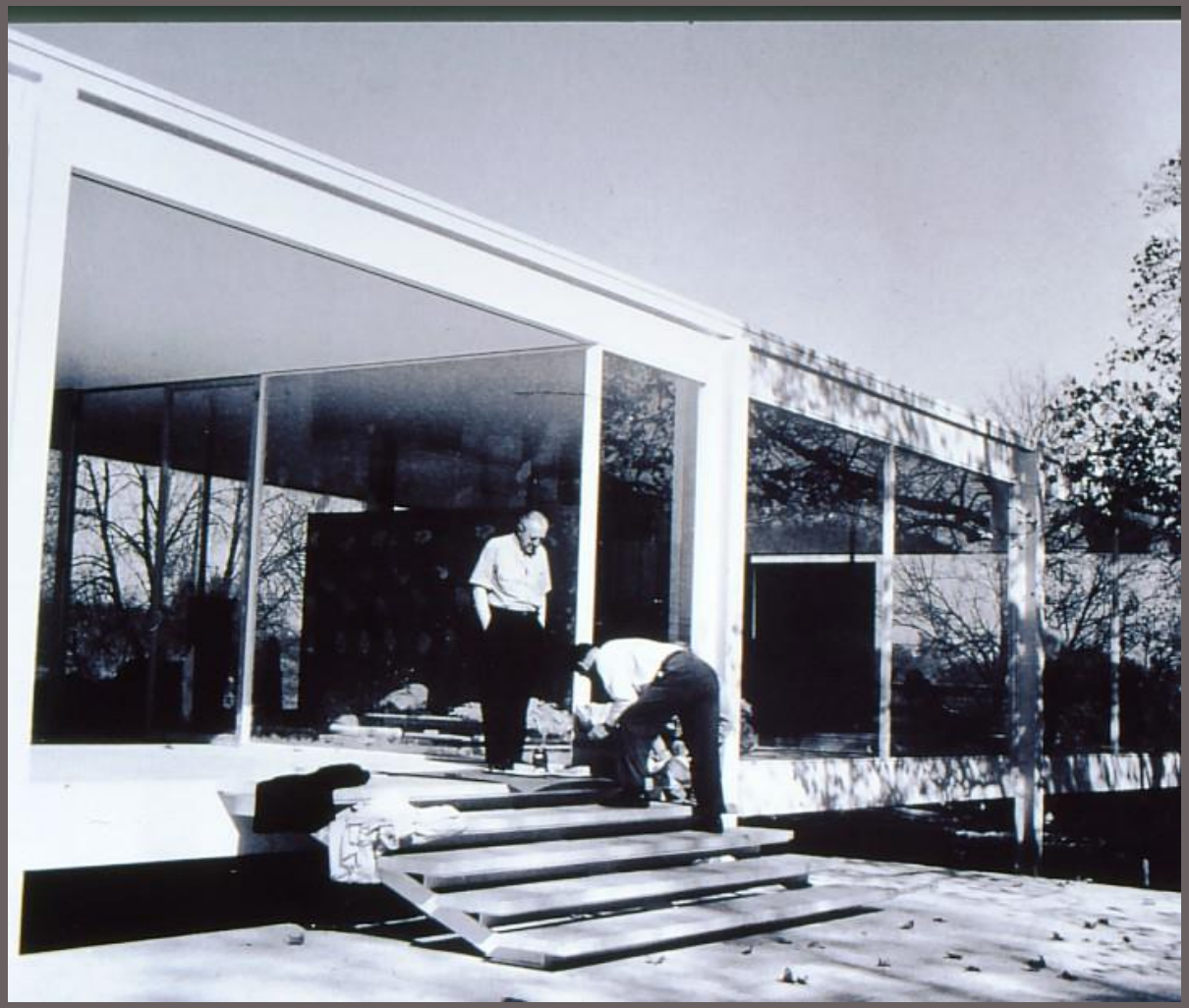
MIES IN AMERICA

The brick base for the corner assembly is refined and a steel angle section covering the fireproofed corner column is welded to the symmetrical placed I-beam of the curtain wall.



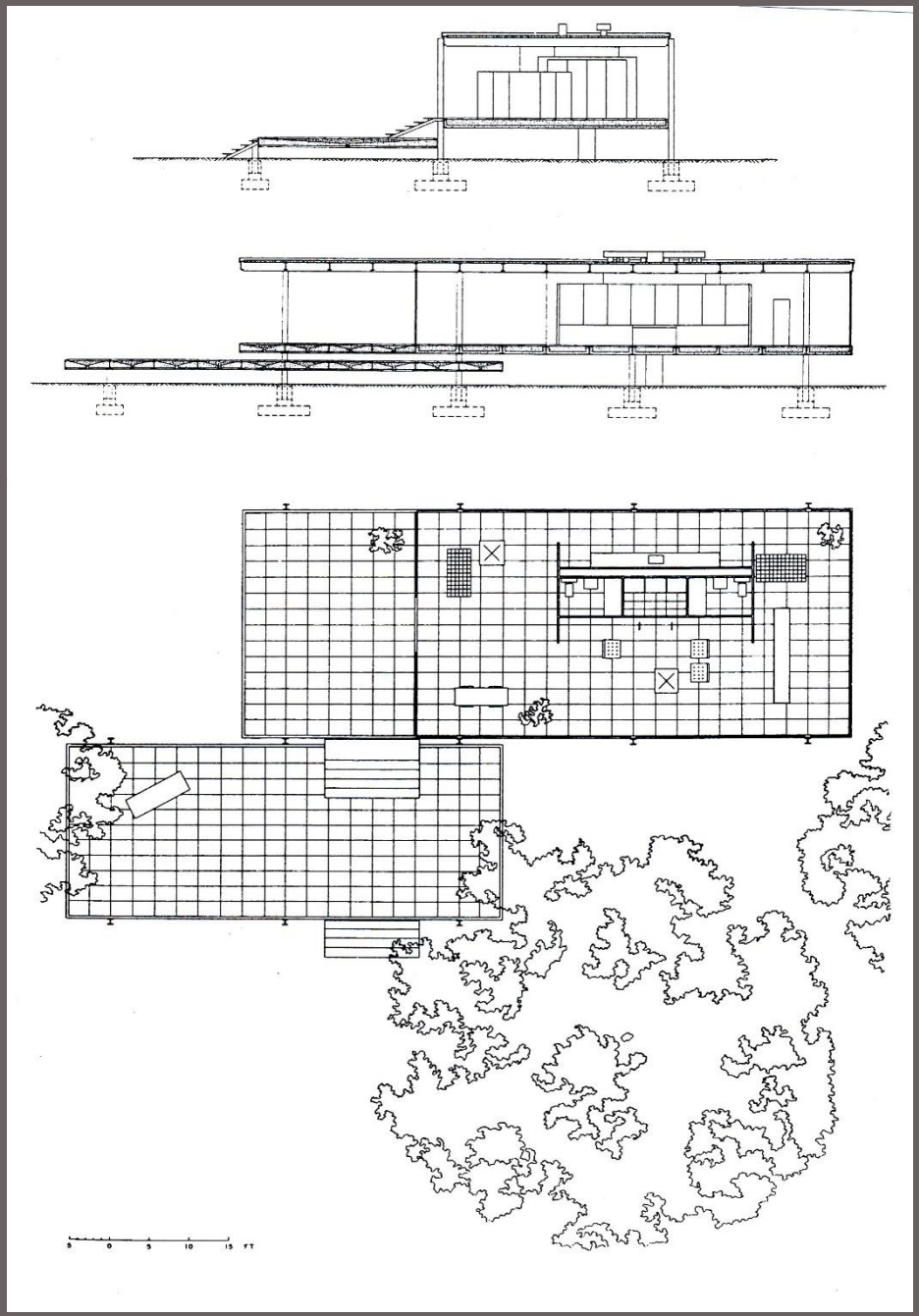
MIES IN AMERICA

The program that the client, Edith Farnsworth gave to Mies, was quite simple: a weekend house for a single occupant who might at times have an overnight guest.



MIES IN AMERICA

Begun in 1945 and detailed and constructed late 1949 and early 1951, this clear-span building , pure glass and steel, pure space, was a most significant unfolding, a fusion of space and materiality that established the genetic code of Mies's clear span buildings.

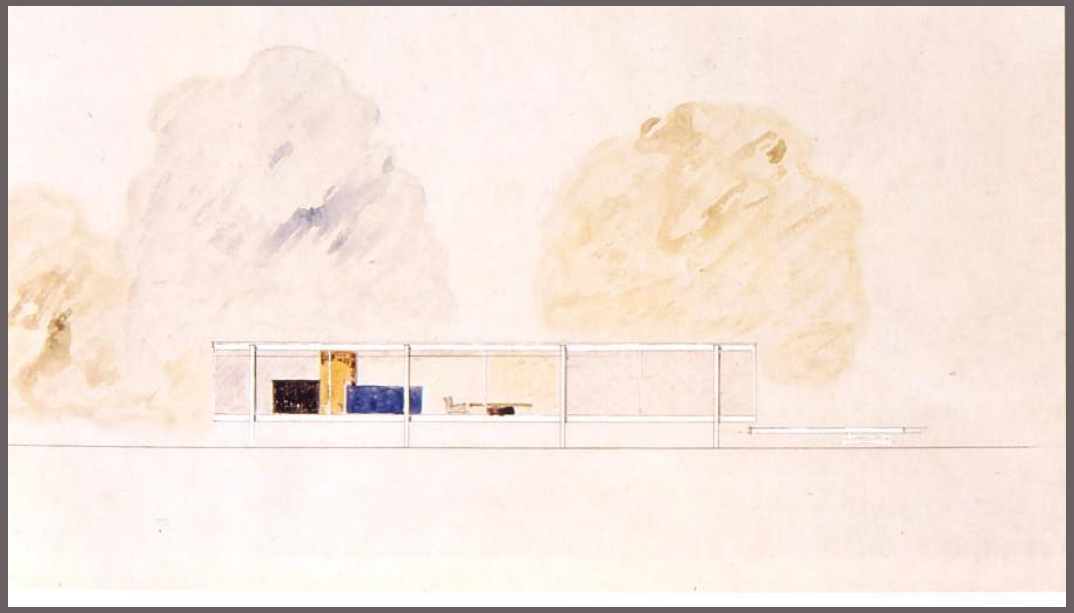


MIES IN AMERICA

While the elongated rectangle of the house lies parallel to the course of the Fox River, the perpendicular cross axis, represented by the suspended stairways, faces the river directly.

MIES IN AMERICA

The experience of Farnsworth house brought Mies to a new understanding of the relationship between architecture and nature. From the theoretical position of 1933 when he proclaimed that only with modern materials (concrete, steel and plate glass) “can we articulate space freely, open it up and connect it to the landscape”, to the 1950s, Mies came to the phenomenal understanding that “before you live in a glass house you don’t know how colorful nature is”.



MIES IN AMERICA

In his conceptual watercolour of 1945, the house appears as a simple rectilinear frame structure poised on the prairie.

MIES IN AMERICA

Mies van der Rohe, Farnsworth House during construction

Mies van der Rohe, Farnsworth House

The architecture of the house represents the ultimate refinement of Mies van der Rohe's minimalist expression of structure and space.

It is composed of three strong, horizontal steel forms – the terrace, the floor of the house, and the roof – attached to attenuated, steel flange columns.

MIES IN AMERICA

Mies, Farnsworth House, 1945.

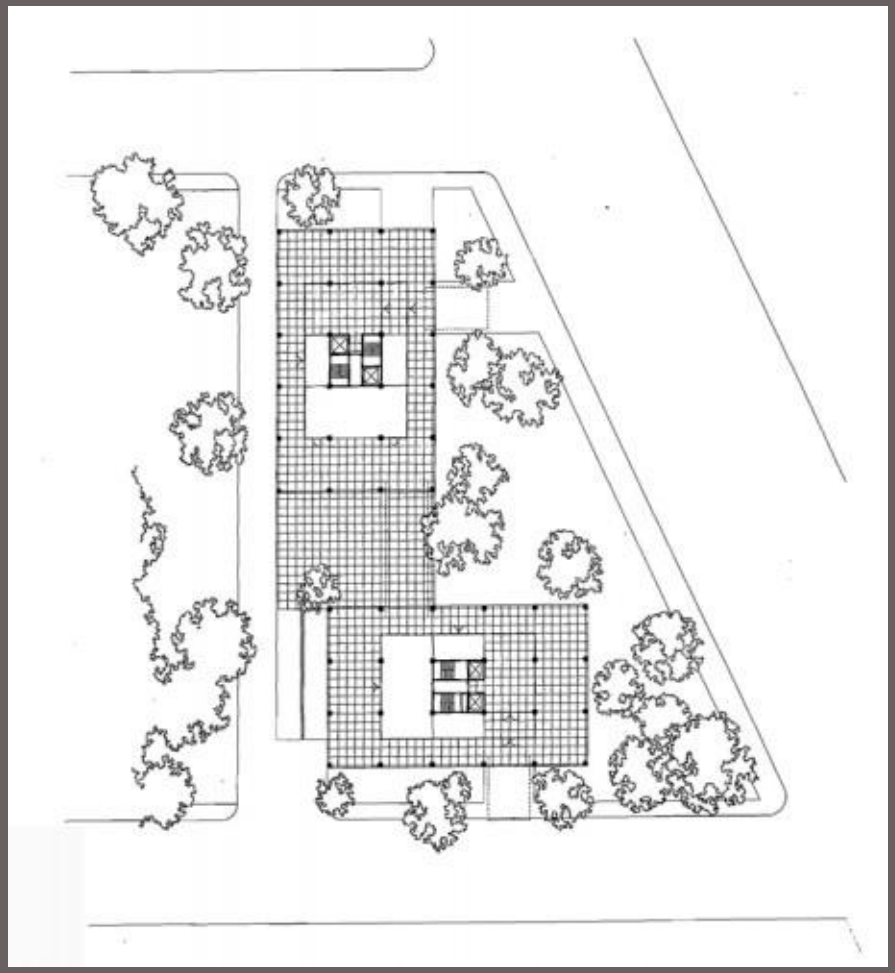
P.Johnson, the Glass House, 1949.

"Only skyscrapers under construction reveal their bold constructive thoughts, and then the impression made by their soaring skeletal frames is overwhelming….On the other hand, when the structure is later covered with masonry this impression is destroyed and the constructive character denied..
We must not try to solve new problems with traditional forms: it is far better to derive new forms from the essence, the very nature of the new problem" (Mies, 1924).

MIES IN AMERICA


Lake Shore Drive during construction

MIES IN AMERICA



While each building alone is symmetrical, comprised of 21’ square bays (5 across, 3 deep) with a total of 288 apartments, the buildings are related informally within this small site to create a dynamism similar to that found on the IIT campus.

At the pedestrian level, the open plan creates a flow of natural greenspace amid the plaza, unprecedented at that time in a city.

MIES IN AMERICA

860-880 Lake Shore Drive Apartment Buildings, Chicago, 1948-51.

The vertical windows and columns emphasize height. Mies relied not on applied ornamentation, but rather on clarity of form achieved through elegant proportions—window width, height, spandrel column, bay facade—and exacting detail. Prior to this point, structure was hidden within architecture. Here, Mies merged the two by exposing the steel, realizing his own words: "When technology reaches it true fulfillment, it transcends into architecture."

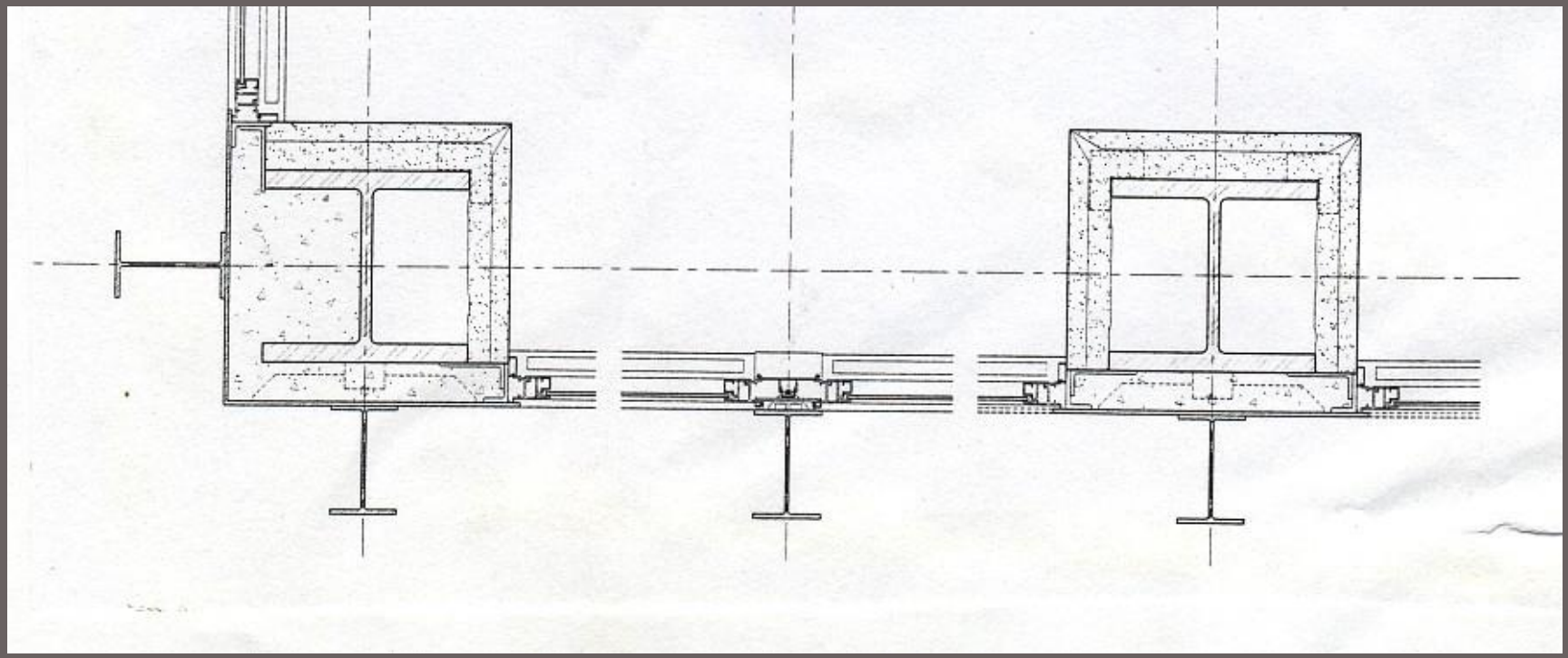
MIES IN AMERICA

The materials are common: steel, aluminum, glass. Yet these buildings are renowned for their structural clarity and composition. Using steel straight from the mill, Mies built with the eye and intent of an artist, striking the perfect balance between rational structure and irrational spirit.

MIES IN AMERICA

The genius of 860-880 was the use of projecting I-beam mullions.
At 860-880 he pushed the skin further back to a position behind the mullion, so that the mullion projected beyond the enclosure.

MIES IN AMERICA



At 860-880 the skin is applied as a membrane over the outer, fireproofed surface of the structure: the steel plates are continuous, covering spandrels and column, and the glass is coplanar with the steel plates and attached to the back of the mullions.

MIES IN AMERICA

The skin is applied in a Classical manner, with the mullions at the center line of the columns , projecting at right angles on each corner of the building as a consequence of the two-way modular grid of the 21’ foot square bay.

MIES IN AMERICA

The mullion functioned as a support for the window frame and wind-bracing for the full height distance between floor and ceiling. However, on the column, the mullion has no such function, and Mies's office colleagues objected.

MIES IN AMERICA

"Now first I'm going to tell you the right reason, and then I'm going to tell you a good reason by itself. It was very important to preserve and extend the rythm which the mullion set up in the rest of the building. We looked at it on the model without the steel section attached to the corner column and it did not look right. Now the other reason is that this steel section was needed to stiffen the plate which covers the corner column so the plate would not ripple, and also we needed it for strenght when the sections were hoisted into place. Now of course, that's a very good reason, but the other reason is the real reason" (Mies, 1952).

MIES IN AMERICA

Graphically, the I-beam stand out against the structural frame subdivided by the mullions into vertical glass rectangles , each proportioned according to the rule of the golden section, which have in turn been subdivided into squares and horizontal rectangles. Within this fields , the I-beams emphasize the verticality of the building and establish a repetitive rhythm that orders the whole.