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## Collage, Perspective, and Space: The Consequences of the Method of Mies van der Rohe

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BY DANIEL BARKER

Cut &  
Paste

AN INVESTIGATION





*COLLAGE, PERSPECTIVE, AND SPACE:*  
*THE CONSEQUENCES OF THE METHOD OF MIES VAN DER ROHE*

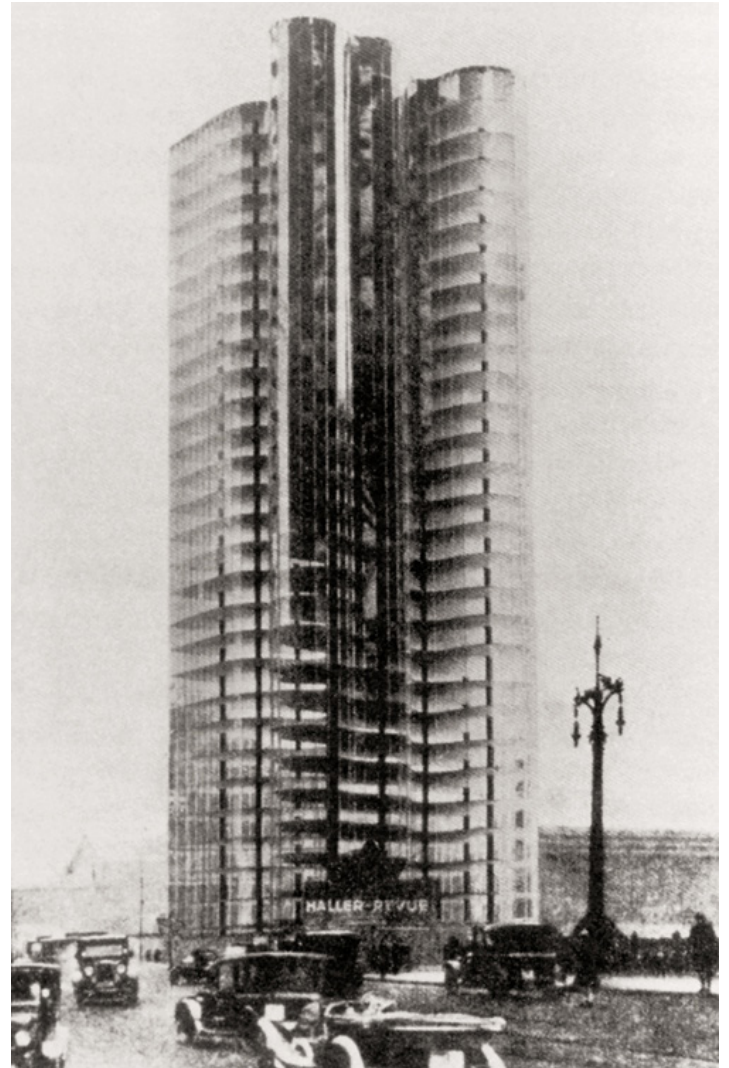


*Mies van der Rohe's Cullinan Wing Addition for the Museum of Fine Arts Houston, 1954*

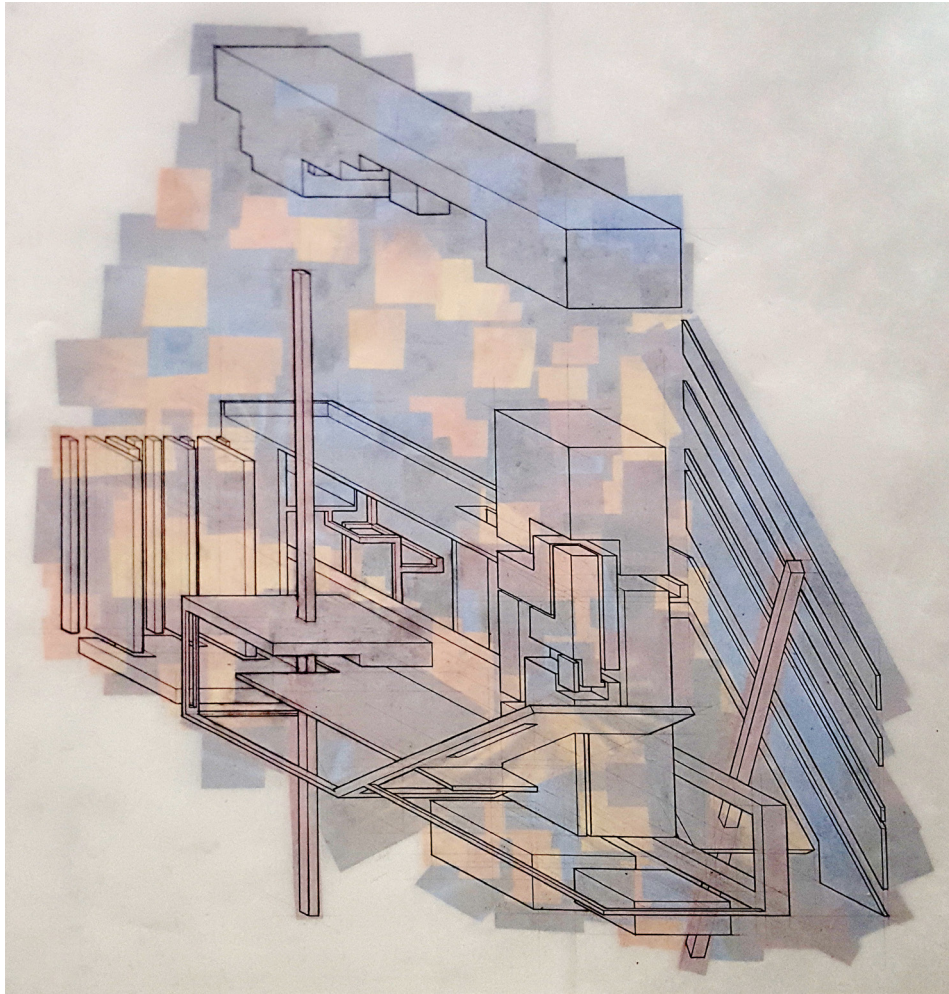
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Mies van der Rohe's Glass Skyscraper Model Montage, 1922







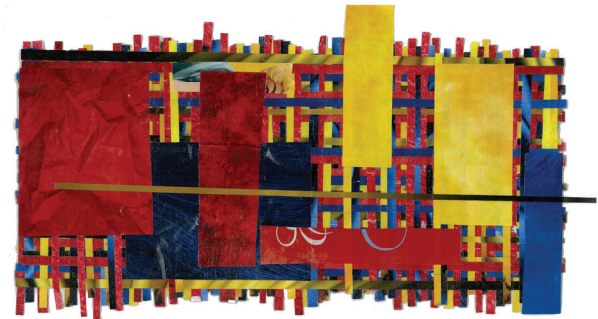
*Axonometric Study of Blues Heaven Foundation, 2017*

## *Preface: Collage in Architecture*

Collage has been a part of architecture since the early nineteen-twenties during the Dadaist and De Stijl movements in art and design. A circle of artists and writers including Hans Richter, a graphic designer and experimental filmmaker, artists and architects Theo van Doesburg and El Lissitzky, and later architect Mies van der Rohe were what would become the foundation of this relationship between the conceptualization of the built environment and the method of cut and paste. It is a method that has continued to pervade the realm of architecture to contemporary design, where I had my first encounter with the tool. In the third semester of my design education, I worked with collage throughout the development of the entire project, a proposal for an addition to the historic Chess Records in Chicago as a new venue for their Blues Heaven Foundation. It was an experience that was both exciting and eye-opening. The artifacts of this study were provocative and had an experiential quality, unlike anything I had encountered prior. But despite my fascination with the method there were moments in using it that I felt lost, not knowing where I was going or what could come next. These experiences warranted not an abandonment of the method, but further investigation



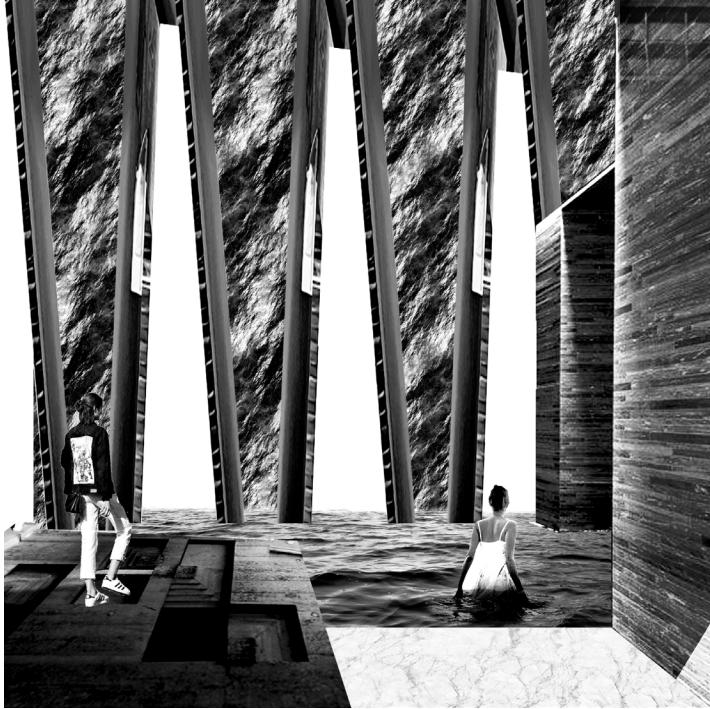
*Blues Heaven Foundation No.6, 2017*



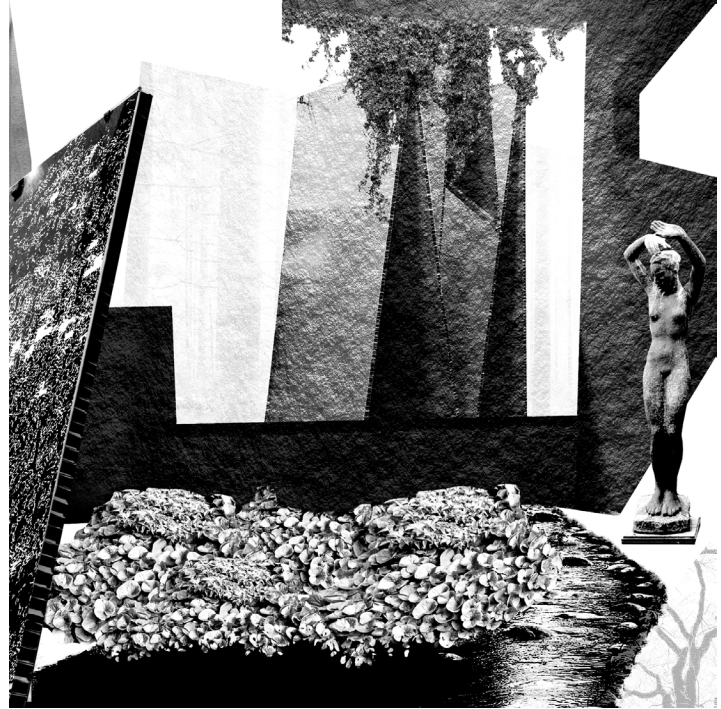
*Blues Heaven Foundation No.9, 2017*



*Blues Heaven Foundation No.18, 2017*



*The Taste of Stone (number 1), 2020*



*The Taste of Stone (number 2), 2020*



into its potential as a tool of design. Other experiments with collage in my design education were episodic and were not rigorous enough in searching the method to leave with many new insights. This inquiry into collage is an opportunity to achieve the deeper look that I need, and to expose the potential of the method in the realm of architecture. In my limited experiences in the working world, I have already been faced with many instances of skepticism about the potential of this method's use in the creation of architectural space. This investigation exposes this skepticism as nothing more than a lack of understanding of the capabilities of collage. Cut & Paste is a small part of a larger inquiry into the place collage has in the creation of architecture, focusing on the works of Mies van der Rohe and how his tool of choice actively played a role in the creation of his architecture. It seeks to address an ultimate question:

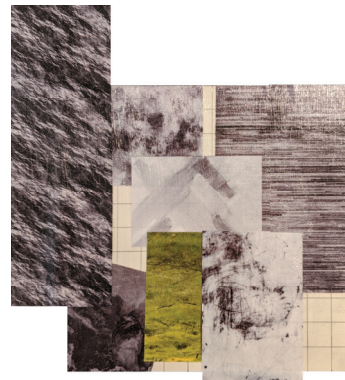
***How does collage directly affect the design of architecture?***

To answer this, the investigation looks to Mies' collages and studies how they are structured, how space is perceived in them, Mies' affinity for the one-point perspective, and Mies' fascination with texture and its relation to experience.



*In the Forest, 2020*

*adj.BY the Forest  
2020*

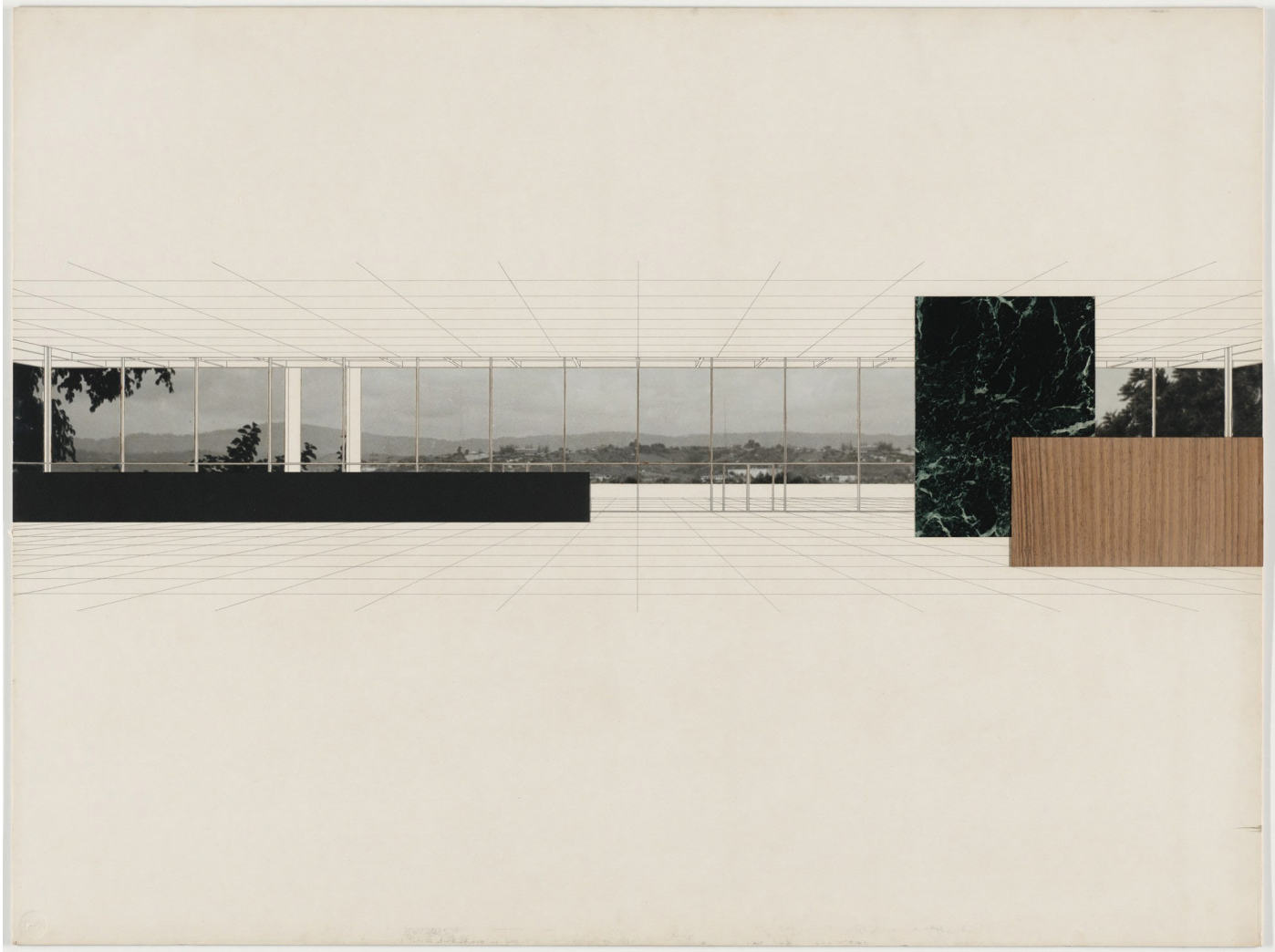


*Pervasion, 2020*



*Cut & Paste: An Investigation*





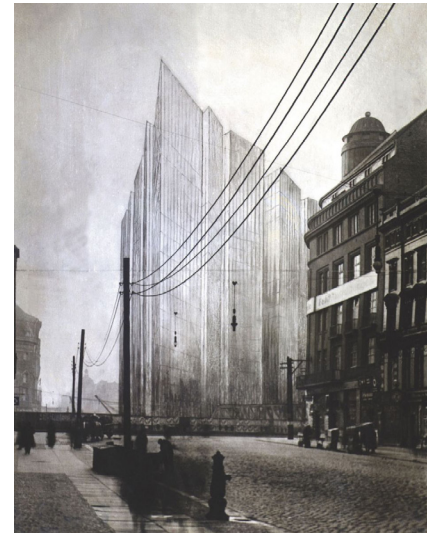
*Mies van der Rohe's Ron Bacardi y Compania, 1957*

## *In Pursuit of Mies*

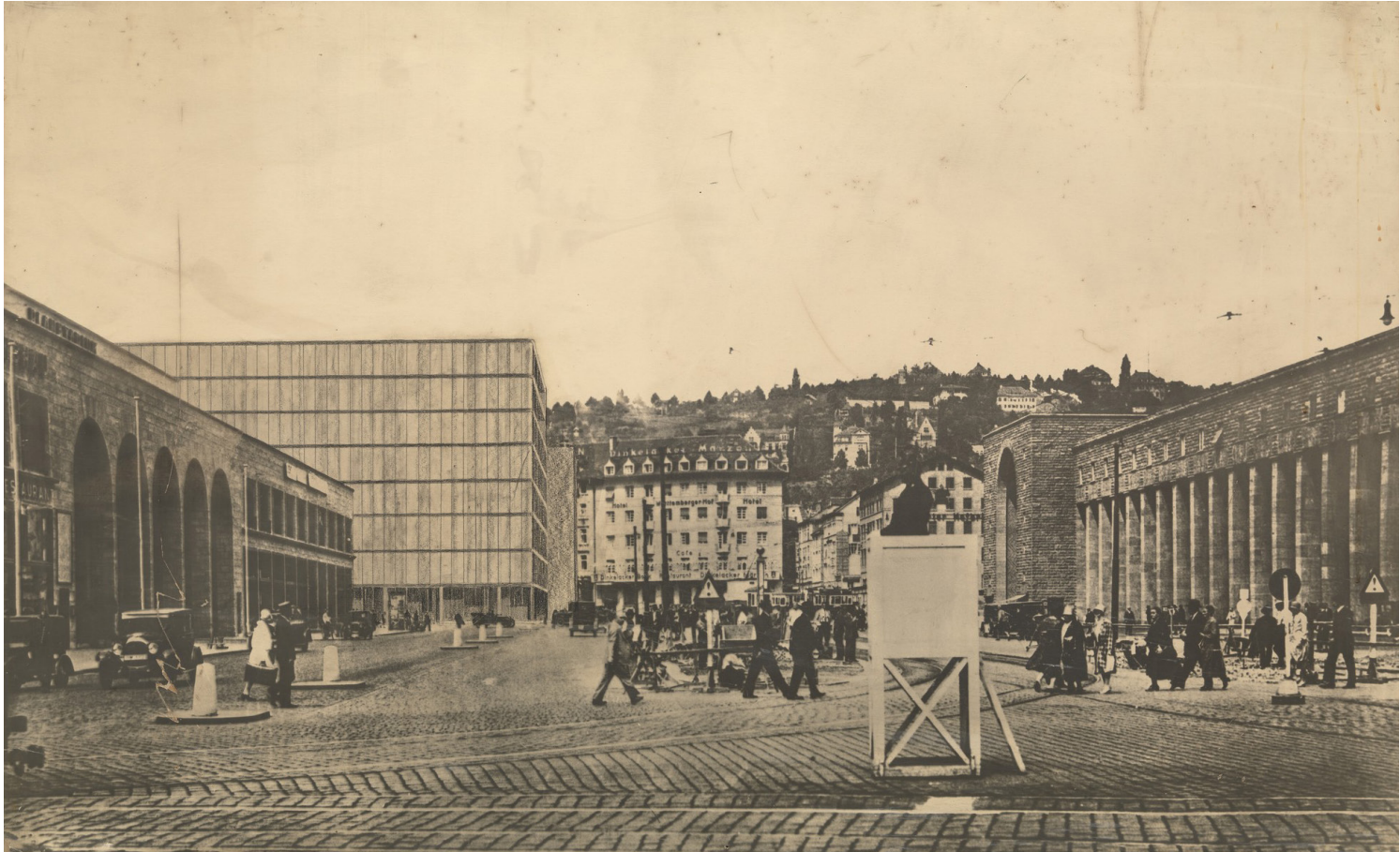
Ludwig Mies van der Rohe was perhaps the most significant modern figure in the history of the relationship between collage and architecture, and his affinity for the method is well documented. From the beginning of his career, Mies is recorded as having been a collagist inspired by his many artistic colleagues during the modernist movement, including the likes of Theo van Doesburg and El Lissitzky who were also pioneers in using collage in design, though his intentions with the process experienced an important shift about the time he left Germany and came to America. Originally Mies was one of the earliest architects working with photomontage and used the process primarily to develop images of what his proposals would look like within the context. To do this, Mies would create drawings of his designs or print photographs of scale models, then cut and paste them into imagery of the context of where the proposal would be, creating a compelling perspective of how the architecture would inhabit its place and be seen amongst the rest of the built environment. This work with collage in Germany was Mies experimenting with the new process, searching for the possibilities of what it could be and the potentials of it in the world of architecture. His



*Mies van der Rohe's Bismarck Monument Project, 1910*

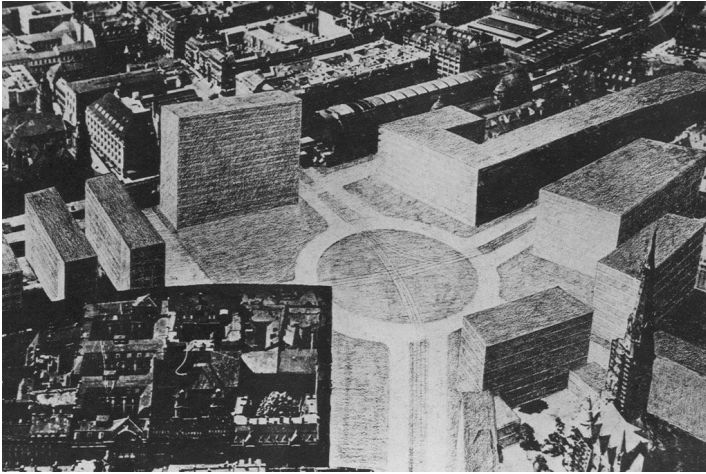


*Mies van der Rohe's Friedrichstrasse Skyscraper, 1922*

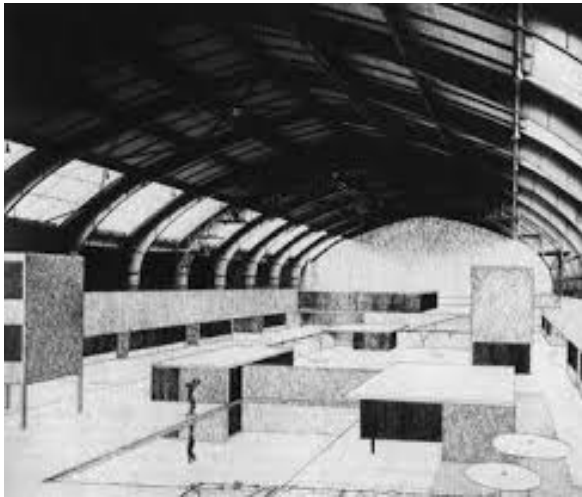


*Mies van der Rohe's Bank and Office Building Project, 1928*





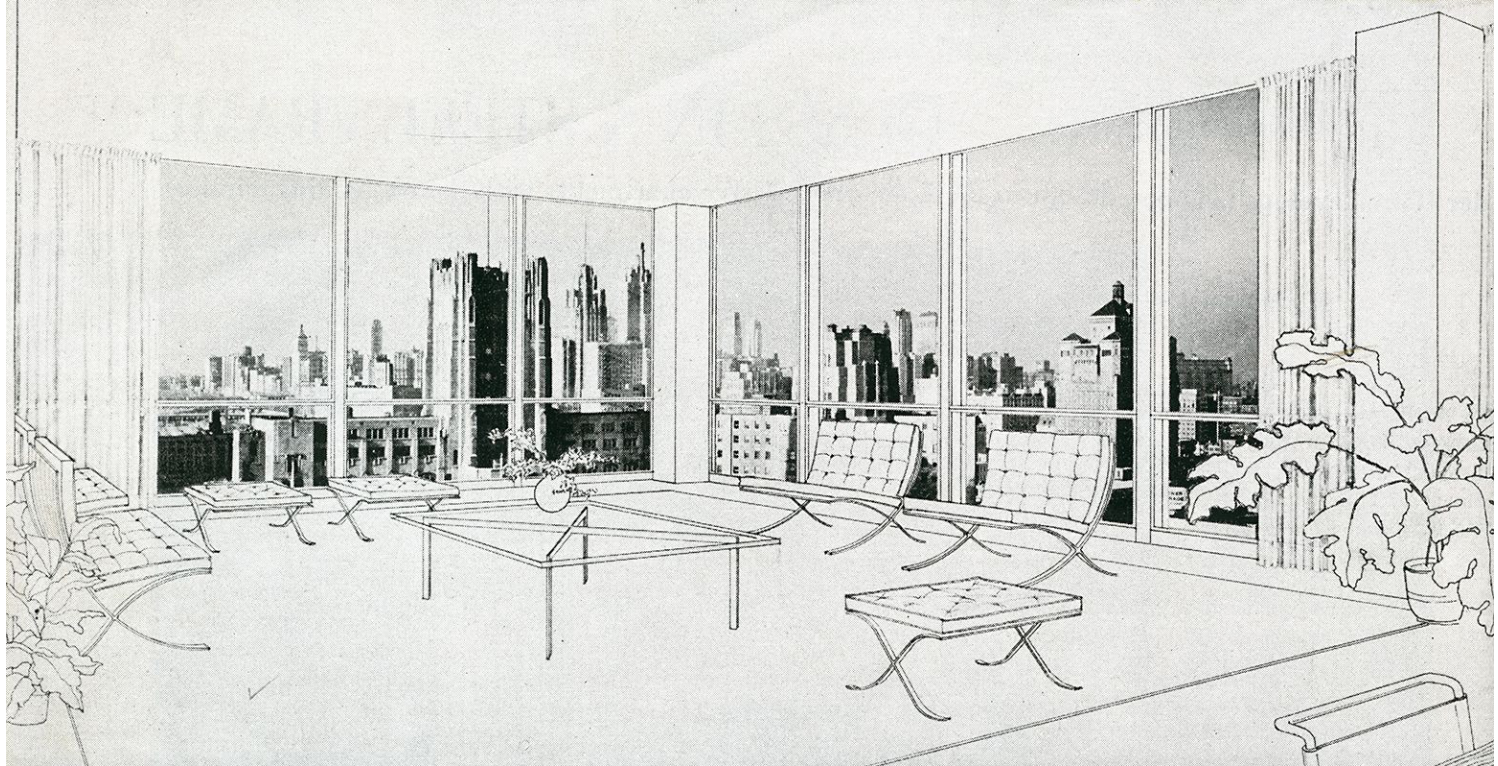
*Mies' Alexanderplatz Urban Design Competition Project, 1928*



*Mies van der Rohe's German Building Exhibition, 1931*

collages from this time period are more photo-realistic relative to his later collages and were yet to be defined by a common language – something that Mies would later develop as a part of his process. After Mies moved from Germany to the United States his intentions with the method of collage experienced an alteration. Growing more confident in his ways of working, Mies began using collage to focus on the development of relationships and the presence of atmosphere, space, and materiality in his projects. He used them to express his theories and his partis and continued the process of collage-making after the conclusion of his projects' construction because collage was how he believed each project was best represented. Lena Büchel discusses this in the context of the MoMA exhibition '*Mies van der Rohe: Montage Collage*' in an essay she titled '*Between Reality and Ideal: The Function of Collage in Mies van der Rohe's Oeuvre in Relation to the Design Context*'. She concludes the essay by describing how Mies van der Rohe preferred for the apartments at Lake Shore Drive, which were completed in 1951, to be presented.

*"The collages served to convey an architectural idea, and indeed, even after the project was concluded, Mies preferred to include the collages*



*Mies van der Rohe's Lake Shore Drive Apartments Photomontage, 1950*

*as illustrations when presenting the apartments, finding Hedrich and Blessing's photographs of the open-plan rooms unsatisfactory. Mies thus decided to give precedence to the ideal image of his architecture rather than to photographic representation, even when the building had been completed." (Beltin et al., 2017)*

Mies held his drawings with a much higher esteem than the photos of his completed work not because the photographs were unable to capture the reality of the project but because photographs could not capture his intentions of the space.

***The collages expressed the project in its purest form.***

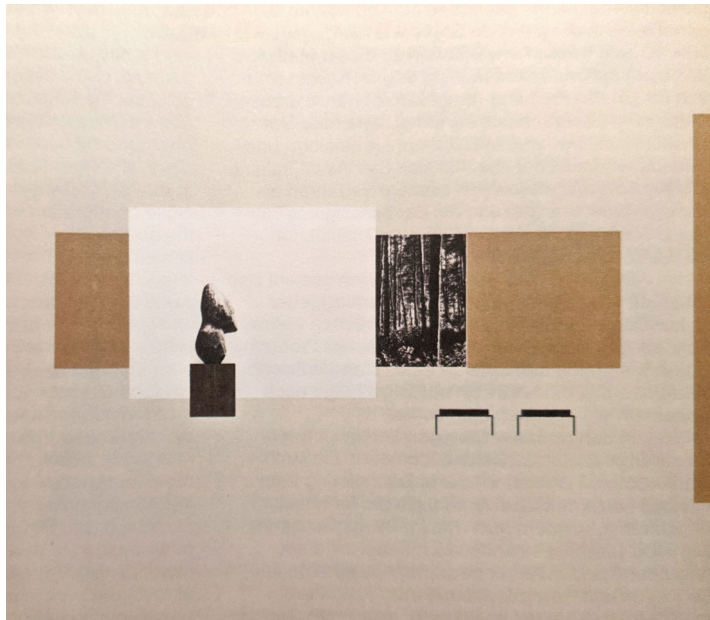
Mies' career as a professor at the Illinois Institute of Technology was just as well-suited to the use of collage as his architectural practice. The method shaped the creation of his curriculum and how students learned where collage was treated as a tool for teaching the students, with Mies using it to convey ideas and ways of thinking about aesthetics, space, proportion, and texture because he believed that collage was



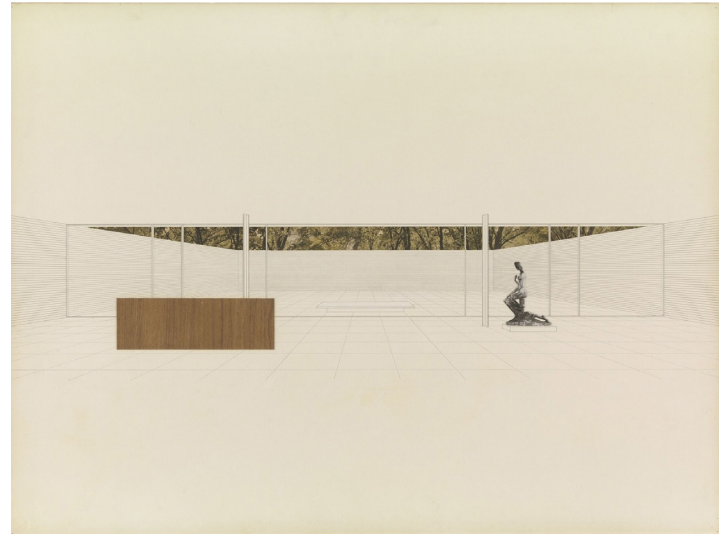
*Hedrich and Blessing's Lake Shore Drive Photograph, 1950*

inherently a strong way to cultivate these ideas in the minds of the prospective architects. The perspective was a better representation of how people experience and occupy space than the typical plan drawing, and the collaged perspective was a quicker and superior means of introducing color and texture to the drawings. The collaged elements contrasted the thin, black lines of the drawing, and their presence in the perspective would create compelling suggestions of the tactile qualities of the spaces that the students were making in the studio. “[H]e viewed collage, as reflected in his teaching at the IIT,





*Mies van der Rohe with Unknown Student  
Music Room as Architectural Problem  
and Its Relationship to Sculpture, n.d.*



*Mies van der Rohe with Unknown Student  
Study of Court House (Graduate Student Project), c.1950s*

as a means of fostering insight and stimulating ideas' (Ibid). Büchel discusses this earlier in the same essay, writing:

*"That was where, working in close cooperation with Mies, [Walter Peterhans] developed the program for 'visual training', which served 'to train the eye and sense of design and to foster aesthetic appreciation in the world of proportions, forms, colors, textures, and spaces.'... Peterhans explained this method as follows: 'We attach incomparably more importance to visual training than freehand drawing or drawing from the nude...visual training has quickly shown itself to be a greatly superior method (\*compared to sketching) since it begins at a deeper level in training the eye for architectural conception and quality and for formal creation in the widest sense. The courthouse collages...aim to resolve a fundamental architectonic problem, namely how to design a standardized building" (Ibid)*

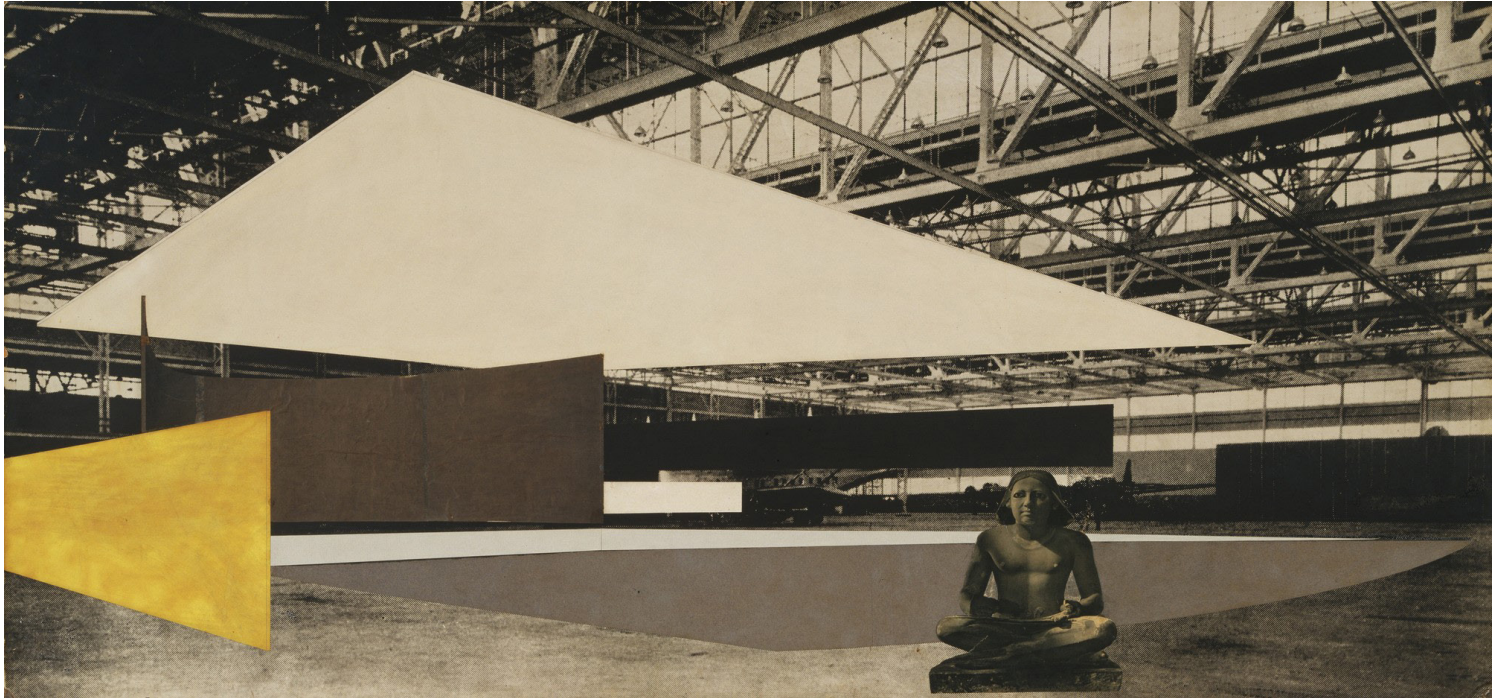
This importance that Mies gives to the eye and how it experiences architecture is re-framed by Jorge Pimentel in

his essay 'Collages and Photomontages in Architectural Representation. The Photographic Works of Teófilo Rego".

*"Those photomontages associated with an illusionist perspective don't break the consistency of the space in the image. His refusal to use other techniques such as the axonometrics – photomontage and axonometry became popular forms of architectural representation at the same time – persisting in the use of linear perspective, is due to his understanding of architecture, first of all, as a visually perceived medium." (Pimentel 2015)*

This inquiry into these artifacts by Mies van der Rohe seeks to further discover why Mies was so compelled by this method of design and to obtain a better understanding of the implications of using collage as a tool of design in the world of architecture. To answer the question **"How does collage directly affect the design of architecture?"** Mies is used as an excellent source for research, with many well-documented examples of crafted collages that have physically constructed counterparts. The collages produced in this body of work document the investigation into the process of Mies and his use





*Mies van der Rohe's Concert Hall, 1942*

of collage as a tool of design. The analysis and understanding of this work has been broken down into four studies:

*How are the collages structured?*

*How are foreground and background perceived in the collages, achieving depth?*

*Why was Mies particularly fond of the one-point perspective, as opposed to the two-point?*

*What advantage does collage offer in the representation of texture as it relates to the experience of architecture?*

These four studies into the process of Mies are used to better understand how each collage was crafted at the level of restraint and clarity that Mies was so skilled at. These investigations by collage-making are seeking to define the unifying qualities of the collages of Mies van der Rohe. What is the language that Mies crafts in his method of collage that enables him to bring lessons learned about the process forward into the next artifact and into the next work of architecture? It is by the definition of the goal of the drawing

that Mies is able to produce a space characteristic of his well-known mantra 'less is more', and it is by this distillation of content that the spaces created in these drawings are extremely well perceived by the viewer, achieving a high degree of understanding of the intentions of the architecture.

***The proportional relationships of objects in space is the purest form of the projects, and what Mies distilled down to in his language of collage.***

This tool is both generative and representational. It is used during the design process to create space and layers within. It is used after the design is finished to document the purest intentions. The knowledge obtained from this investigation provides a deeper understanding of the consequences of the way in which Mies chose to work and even suggests how this method altered the architecture of this renowned designer.



*Mies van der Rohe's Court House Project, after 1938*

# *GRID AND COLUMN*

## *HOW MIES STRUCTURED THE COLLAGE*

*“each element does not float; it is situated in the overall context of grid order” (Ransoo 2006)*

# Collage 1

The first collage created in this body of work revisited a Mercado set in Pilsen, a neighborhood that sits just outside of Chicago. The significance of the context in this drawing, represented in the collage by the photograph of Pilsen seen through the end of the space, is not unlike that of Mies' collages for the Resor House project. The Resor House was a house design that enabled Mies to leave Germany and come to America. Neil Levine describes this process in *'The Significance of Facts: Mies's Collages up Close and Personal'*.

*"Looking for a way to get Mies out of Germany and to the United States, Alfred Barr, who was director of the Museum of Modern Art and particularly close to Helen Resor, contacted Mies during the winter of 1936-37. She interviewed him in Paris in July 1937 and he visited the Wyoming site in August. After spending a few weeks there studying the site and sketching out ideas, Mies completed the design in New York during the fall and winter of 1937-38...He returned to Germany in early April to put his affairs in order prior to taking up the*

*permanent position he had been offered as head of the architecture school at IIT." (Levine 1998)*

Mies produced several collages for the design of the house to create a space that would allow for broad, uninterrupted views of the surrounding place it was in, achieving what the Resors had set out to do with the architecture since its conception as "a modern house that would straddle the creek and thus take maximum advantage of the view" (Ibid). Mies was keenly aware that achieving these views into the landscape required not only transparency through the perimeter of the house but also transparency through the spaces within the house as well. This meant that whatever parts of the architecture occupied the interior needed to be minimal, so as not to break apart the view to the outside. Opaque walls would mask any openings to the exterior Mies made, and thick columns would cut apart the



*Mies van der Rohe's Resor House, Looking North, 1937*





Collage 1

view to the landscape. Mies instead used the slender column to support the architecture in the space. This move allowed the column to nearly fade out of existence as one gazes out past the structure and into the setting. The treatment of the method in the Resor project is groundbreaking for Mies, a shift in the work that Brigitte Franzen describes in her essay *“Dissociation of Time: Some Ideas on Mies and Collage.”*

*“In his first design for a building in the United States, Resor House (1938), Mies changed his representational perspective in collage at the historic moment when he had just finished taking his leave of Germany. Here the photocollage no longer serves to visualize the position of the new architecture within its external context but instead becomes a pattern book that evokes the spaces and materiality, the views and the atmosphere within the rooms.” (Beltin et al., 2017)*

This idea of a delicate interior to create transparency to the exterior was a driving factor for the collage of the mercado, a project that hadn't been worked on in about two years, and construction documents, imagery, renderings, and sketches pertaining to the project were not reviewed prior to the collage.



*An alternative of Mies van der Rohe's Resor House, Looking North, but if Mies had used walls to support the roof instead of the slender columns he proposed*



*An alternative of Mies van der Rohe's Resor House, Looking North, but if Mies had used thick columns to support the roof instead of the slender columns he proposed*



*Mies van der Rohe's Resor House, Looking North, 1938*



*Mies van der Rohe's Resor House, Looking South, 1939*



Instead, there was a reliance on what was remembered about the place and the motivations of the design parti. This was done in reference to Mies' use of collage to show a project in its purest form. By removing any detailed limitations and restrictions imposed by the assembly of the structure or the exact thicknesses of materials and components, it became easier to shift the focus of the drawing to the proportion of the elements in space and their relationship to the apertures. The placement of the surfaces in space was an important part of creating the collage, but absent of any sort of reference pattern on the floor these surfaces seemed to float in the space, and their position and scale were called into question. This is where the addition of a grid on the floor of the interior space comes from. The implementation of this grid lends a clear legibility to the position and scale of these objects. A re-visitation of the first collage sought to address some shortfalls of the original drawing. The absence of a scale figure in the first collage was detrimental to the clarity of scale in the space. The addition of the scale figure in this drawing helped to better the understanding of this, much in the same way that the grid did in the original. It was later determined, however, that the ability to see the figure in its full form would have been even better. With the lower half of the figure obstructed by a

surface in the foreground, the scale is less overt than it would otherwise be. In addition to the introduction of a scale figure, this new collage separates itself from the previous by adjusting the presence of the background image through a manipulation of its saturation. This was done to enhance the depth of the drawing, where the more saturated surfaces in the foreground are more dominant and the background is noticed later. Mies used this manipulation of the saturation of the context in some of his collages, including a later collage produced in the series for the Resor House project. This manipulation is a way of having control over what the drawing is communicating, and clarifies spatial relationships within the work. In review of the collage, one of the most important lessons learned was the importance of the grid in understanding the spatial locations and relationships of the objects in the space they were occupying. Mies' use of the grid in almost all of his projects is well known, and his use of the grid in his collages becomes just as consistent shortly after the Resor House collages. One could argue that Mies included the grid in his collages because of his desire for the grid in his architecture, but it could also be argued that this should be seen the other way around. Was the advantage of the grid in his chosen method of design what lead to the expression of the grid in the final, built work?



*Collage 1, revisited*

*earliest collage  
with the grid*



*Court House Project*

1938



*Crown Hall*

1956



*Farnsworth House*

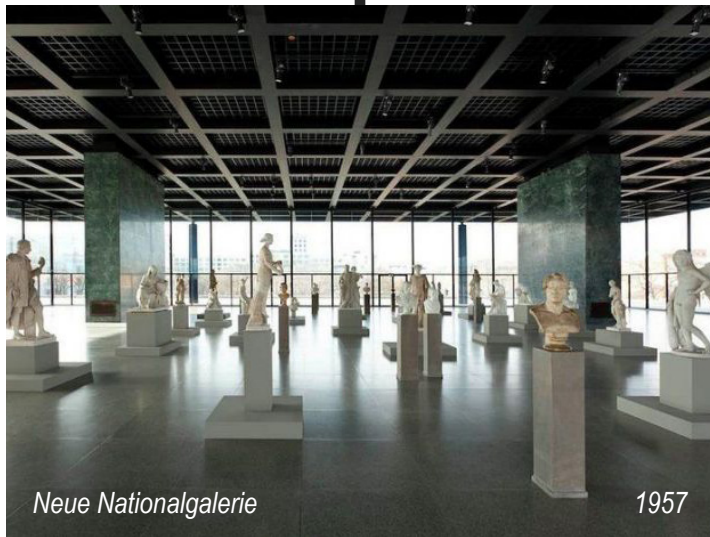
1951





*Martin Luther King Jr. Memorial Library*

1972



*Neue Nationalgalerie*

1957

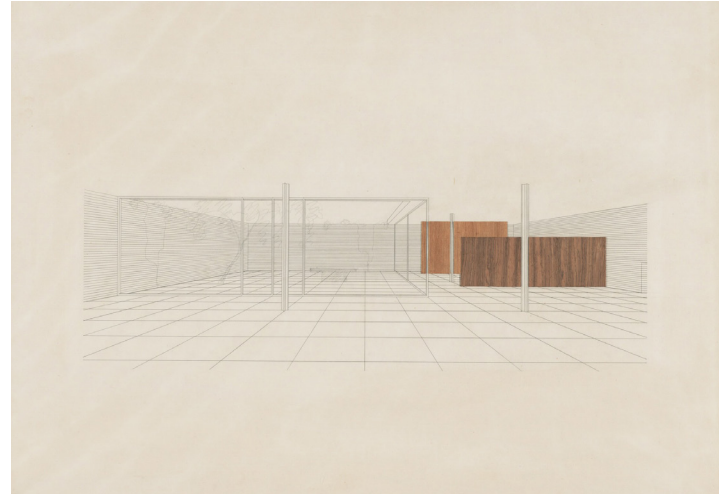


*IBM Building*

1973

## Collage 2

The second collage was another vision of Mercado Voletra in Pilsen, where the background seen in the first collage shifts from directly in front of the viewer to the peripheral. The view of this drawing lends itself to more of the structure of the mercado and has more spatial layers in the interior. Learning from the observations of the previous collage the scale figure is almost entirely visible to allow for a deeper understanding of scale within the space, and the floor of the market has a grid that allows the viewer to perceive the locations of objects in the room. In this drawing, the surfaces in the foreground are drawn in the perspective, and the wood grain is considered consciously in the manner in which it moves across the planes. Graphite powder is introduced to one of these surfaces, as the addition of tone is beneficial to an understanding of the space. Mies does not have any documented collages where he applies tone to a surface in this way, but he achieves the same outcome in his collage of the Row House through the use of different species of wood in his veneers and by hatching the perimeter walls of the spaces in a line pattern. In this drawing, the veneer surfaces are used in the same way that the veneer is used in collage 2, and the line hatch



*Mies van der Rohe's Row House, after 1938*

on the surrounding walls of the space acts the same as the photos that depict the background in this second collage. The drawing of the Row House is also structured in a similar manner as in collage 2, where there is an occupied interior space in the foreground followed by an occupied exterior space adjacent to a divided interior space in the background. This calls back to Mies' intention of these artifacts being a tool of exploring and documenting spatial relationships. Through the use of the planes on the right side of the drawing, Mies is exploring how these smaller spaces may have views similar to that of collage 2 where planes direct the view to the exterior.





Collage 2

## Collage 3

The third drawing of this investigation is the first to be of a project that is actively advancing through the design process. The collage is used to explore how the core values of the Ross and Mary Whipple Family Forestry Education Center to be located at Garvan Woodland Gardens in Hot Springs, Arkansas may work in tandem or with other, more specific design ideas. This is seen on the right side of the collage with the exploration of the use of a wood-structure or screen to add a layer to the view out into and across the forest that the building is sited within. The use of the grid on the floor of the space is replaced by a linear hatch that is more suggestive of a wood board finish, which still allows for clarity in the positioning and scale of objects in conjunction with the scale figure, but better aligns itself with the intentions of the project. If this method of articulating the floor of the space is just as effective as the use of the grid, then it should be considered why Mies used the grid almost exclusively in his drawings. When compared side by side, it becomes apparent that the grid lends itself to a more planar language while the linear array is much more, well, linear. Mies was a skilled designer acutely aware of the relationship between planar (wall) and

linear (column) and used the planar in a very purposeful manner intending to create a contrast between the tangible surfaces of the occupied spaces and the linear components of his structures. This language of column and plane would be another manifestation of the collages into architecture. In Mies' collages, a planar language is often introduced by the grid or by pasted veneers or imagery. The pasted imagery of the context in the backgrounds of these drawings would be an exception to the rule, but otherwise these elements are almost always relatively large surfaces or objects within the space. In order to preserve the views and spatial relationships that have been designed by the architect, slender columns are used to divide the floor and the ceiling and are very tectonic in nature. It is by this design process that Mies' collages may have been driving his architecture. Without the desire to cut and paste into a drawing there wouldn't have been the introduction of the solid surface as a tactile object in the space. Without the inherent significance of these objects that comes from them having driven the design of the space, there wouldn't have been the necessity of using thin, tectonic elements to leave the space open for views across to these objects within. The active process of creating the collage is what determined these design characteristics in Mies' work.



*Collage 3*



# Collages without the grid



Figure 1A

*Mies van der Rohe's Resor House, 1939*



Figure 1B

*model of Mies van der Rohe's Resor House*

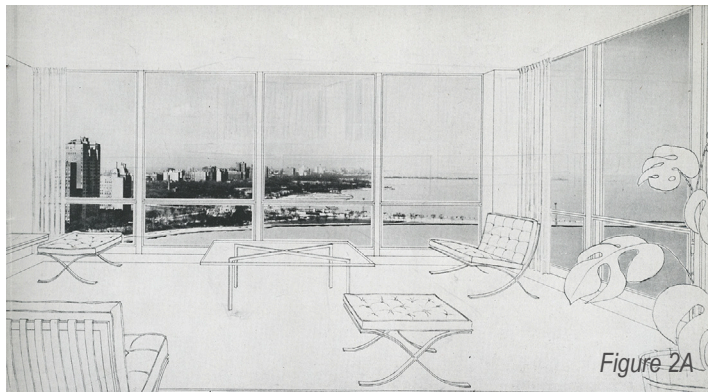


Figure 2A

*Mies van der Rohe's Lake Shore Drive Apartments, 1950*



Figure 2B

*Mies van der Rohe's Lake Shore Drive Apartments, Interior*

# Collages with the grid

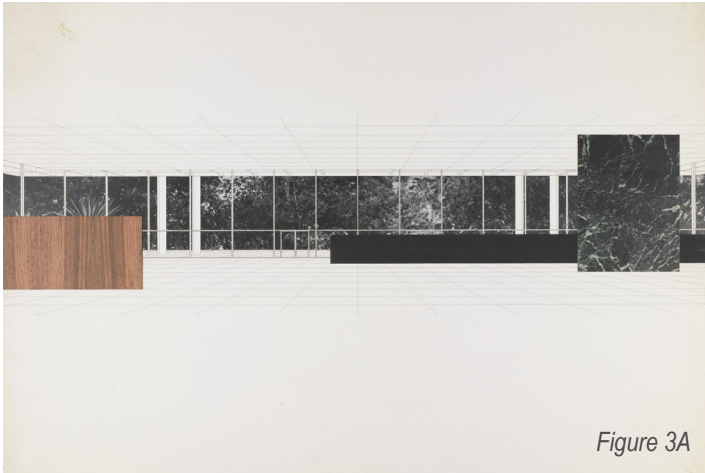


Figure 3A

*Mies van der Rohe's Ron Bacardi y Compania, 1957*



Figure 3B

*Mies van der Rohe's Ron Bacardi y Compania, Interior*

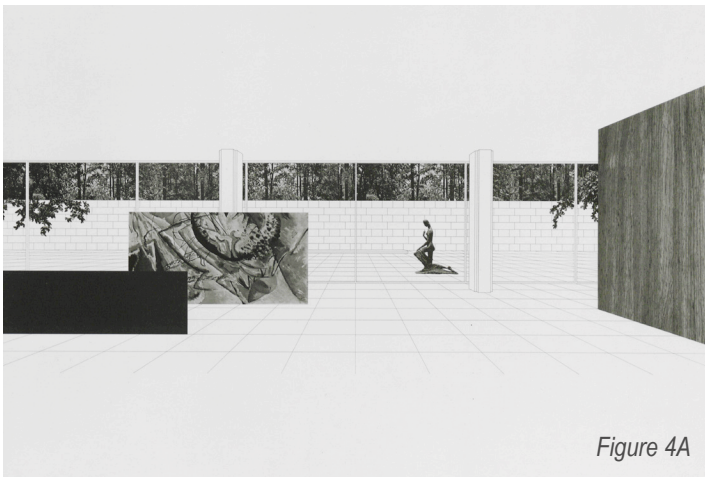


Figure 4A

*Mies van der Rohe's Neue Nationalgalerie, 1962-68*

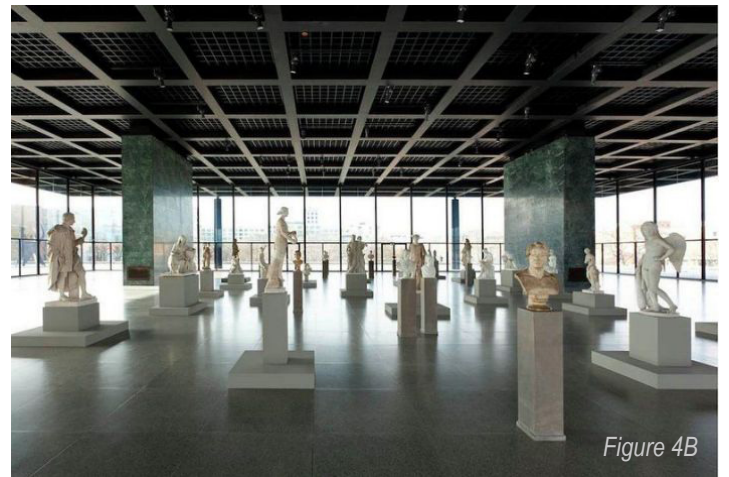
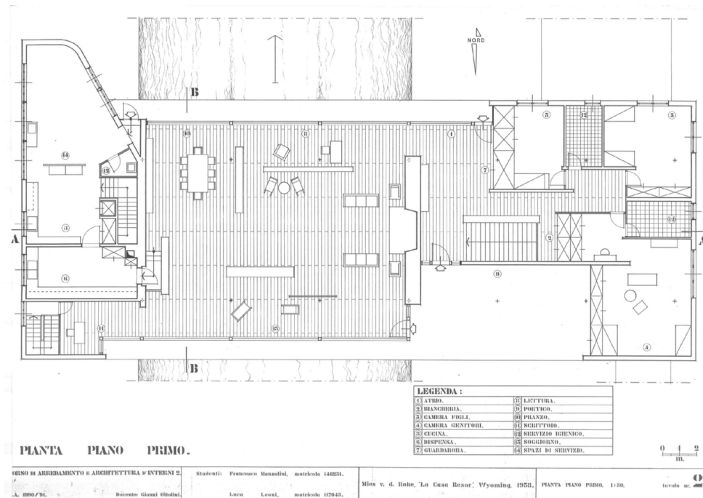


Figure 4B

*Mies van der Rohe's Neue Nationalgalerie, Interior*

Figure 1A of the Resor House on the previous spread is one of the few examples of Mies' drawings after his shift from photomontage to collage that lacks the implementation of the grid and is also one of his earliest collages. The photograph of a model of the Resor House (Figure 1B), which was ultimately never constructed, shows a living space that has distinct similarities to the space crafted in the collage beside it. It's interesting to note that the model, as well as floor plans and other drawings of the house design, shows the space as having wood flooring rather than travertine tiles or some other material that would create a grid across the

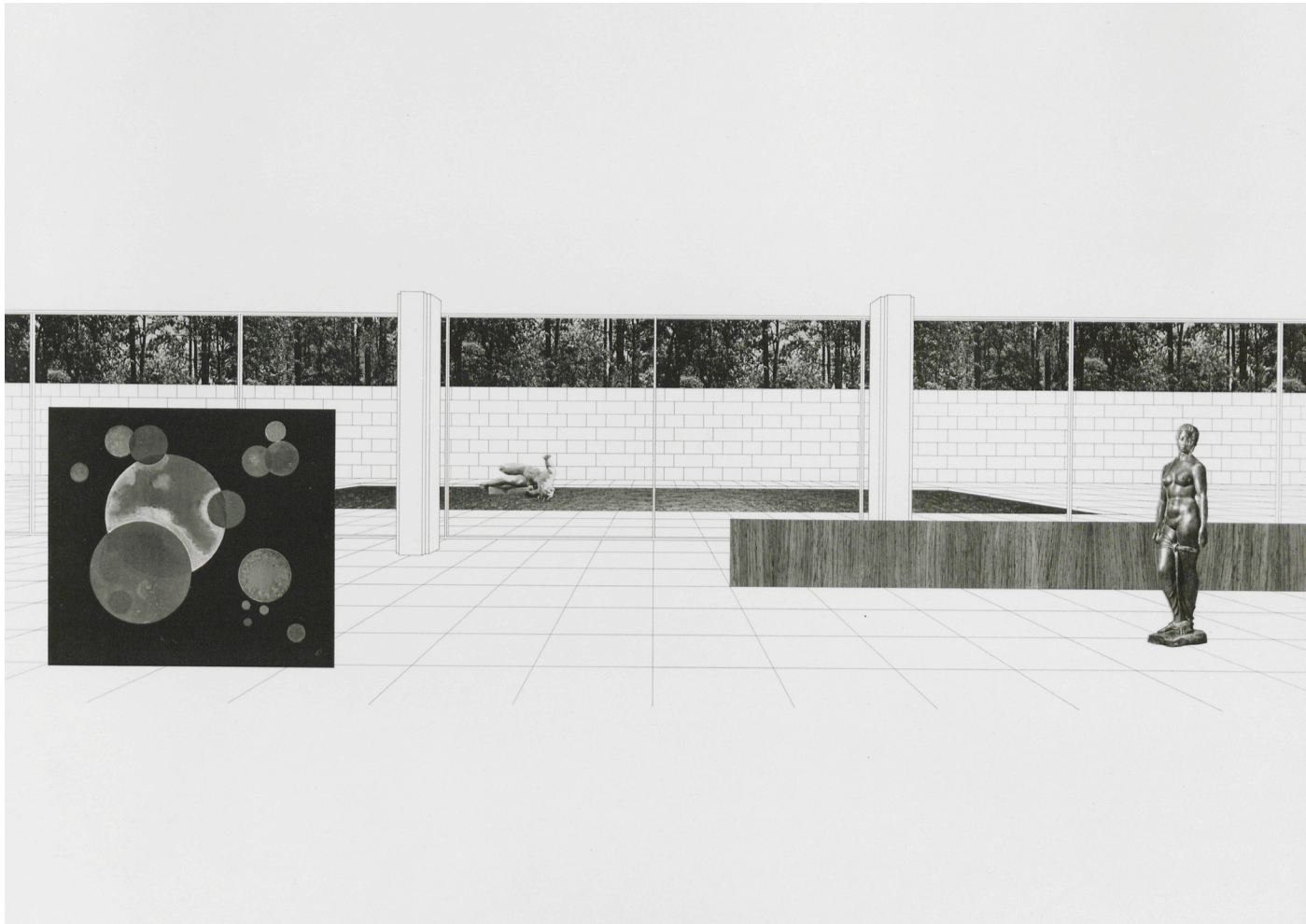


*Floor Plan of the Resor House, 1939*

floor of the space. Mies' drawings for the Courthouse Project and the Row House (both pictured right) are works that immediately precede the Resor House coming in 1938, and the Museum for a Small City (pictured right) comes right after in 1941-43, all three of which include the use of the grid. The Resor House drawing is the exception amongst the group, absent of the grid Mies uses in most of his other collages to clarify the placement of surfaces in the space. So what, then, informs the decision between the linear pattern of a wood floor and the gridded pattern of a tile floor? Mies' lack of representation of the wood floor in the collages of the Resor House suggests that he believed this linear pattern was not a part of the purest form of the space, as the purest form is what he aimed to achieve in the collages. If Mies felt as though his distillation process in representing the architecture required the removal of a wooden floor but not of a tiled floor, the collage would have been a compelling argument to the architect to consistently rely on the use of the grid instead.

***A product of the language he was defining, Mies' collages determined the grid to be the purest solution for organizing his spaces.***





*Mies van der Rohe's Neue Nationalgalerie, 1962-68*



Additionally, the grid ensures the presence of a line in the direction perpendicular to the viewer. (In the built environment, this line is congruent with a material joint or seam.) The spaces crafted in the collages of the Ron Bacardi y Compania (Figure 3A) and the Neue Nationalgalerie (Figure 4A) appear to have more depth when compared to the space in the collage of the Resor House, as the horizontal lines of the grid gradually get closer together as they move back in the space. These horizontal lines are another device of the

perspective to suggest depth to the viewer. The diagrams below illustrate the advantage of the grid in the perspective. Figure 5A shows a plan of a linear pattern that is oriented parallel to the vision of the viewer, and above the plan is the translation of that hatch as it would converge to a vanishing point. Figure 5B has the same pair of illustrations, but instead depict the consequences of the grid. The perspective of the grid appears longer than that of the linear pattern because of the converging horizontal lines that run parallel to the

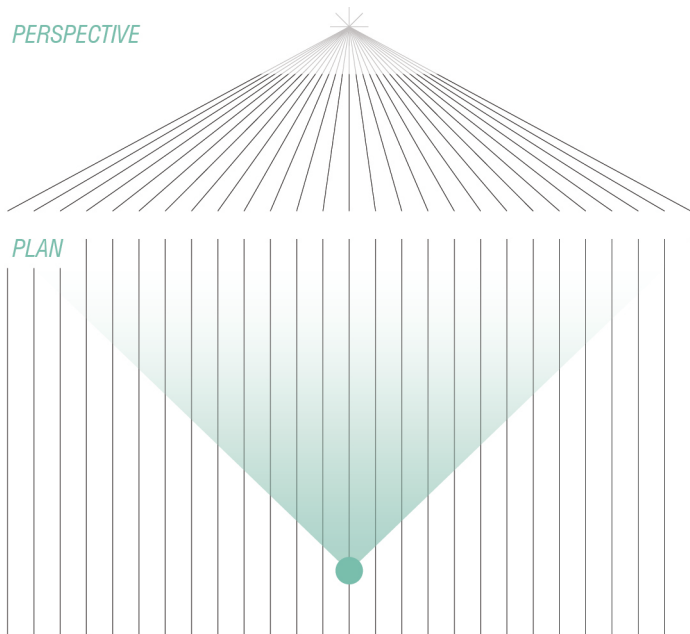


Figure 5A

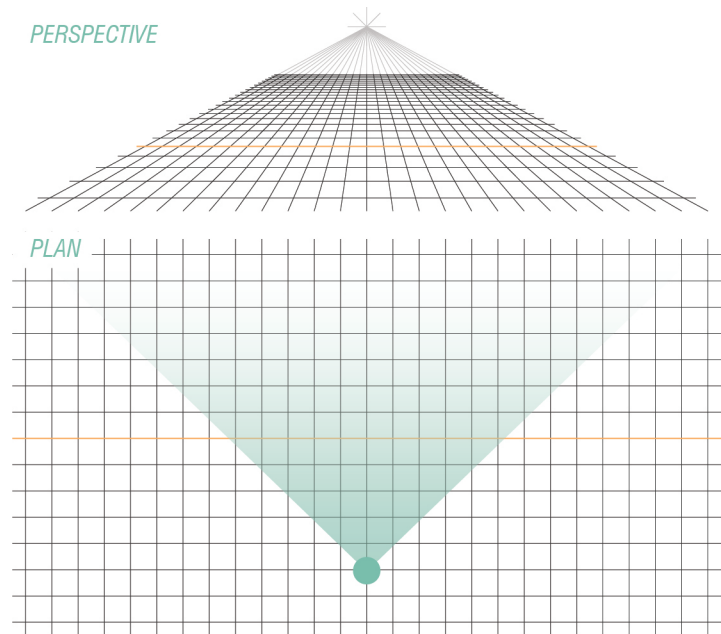
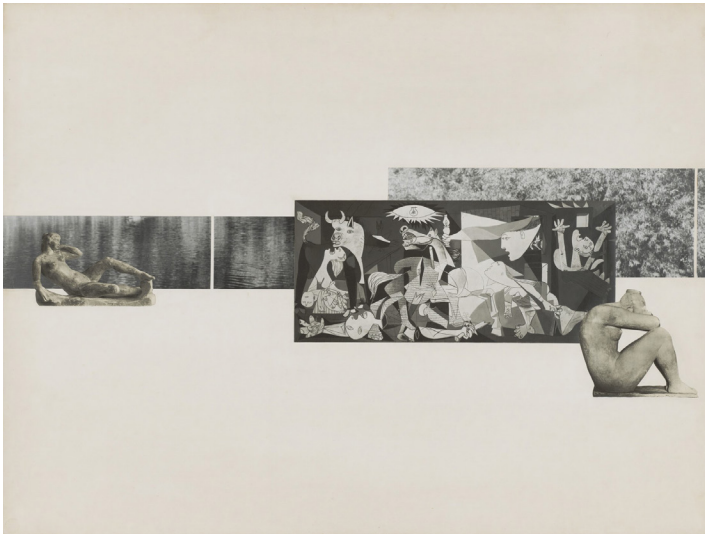


Figure 5B

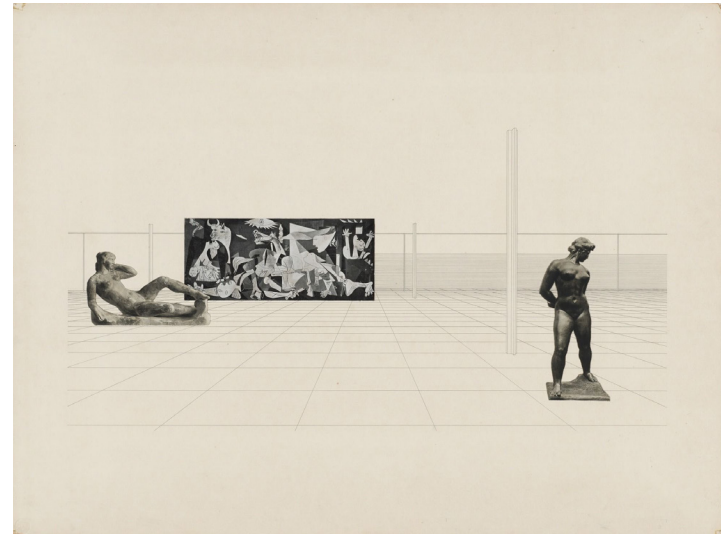
viewer. The significance of the role of the grid is underscored by Ransoo Kim in his essay “*The ‘Art of Building’ of Mies van der Rohe*” where he discusses the vitality of this device.

*“Mies reduced his buildings to ‘almost nothing (Mies’s phrase)’ for the ‘highest possible degree of freedom’ in spatial usage and expression... each element does not float; it is situated in the overall context of grid order” (Ransoo 2006).*

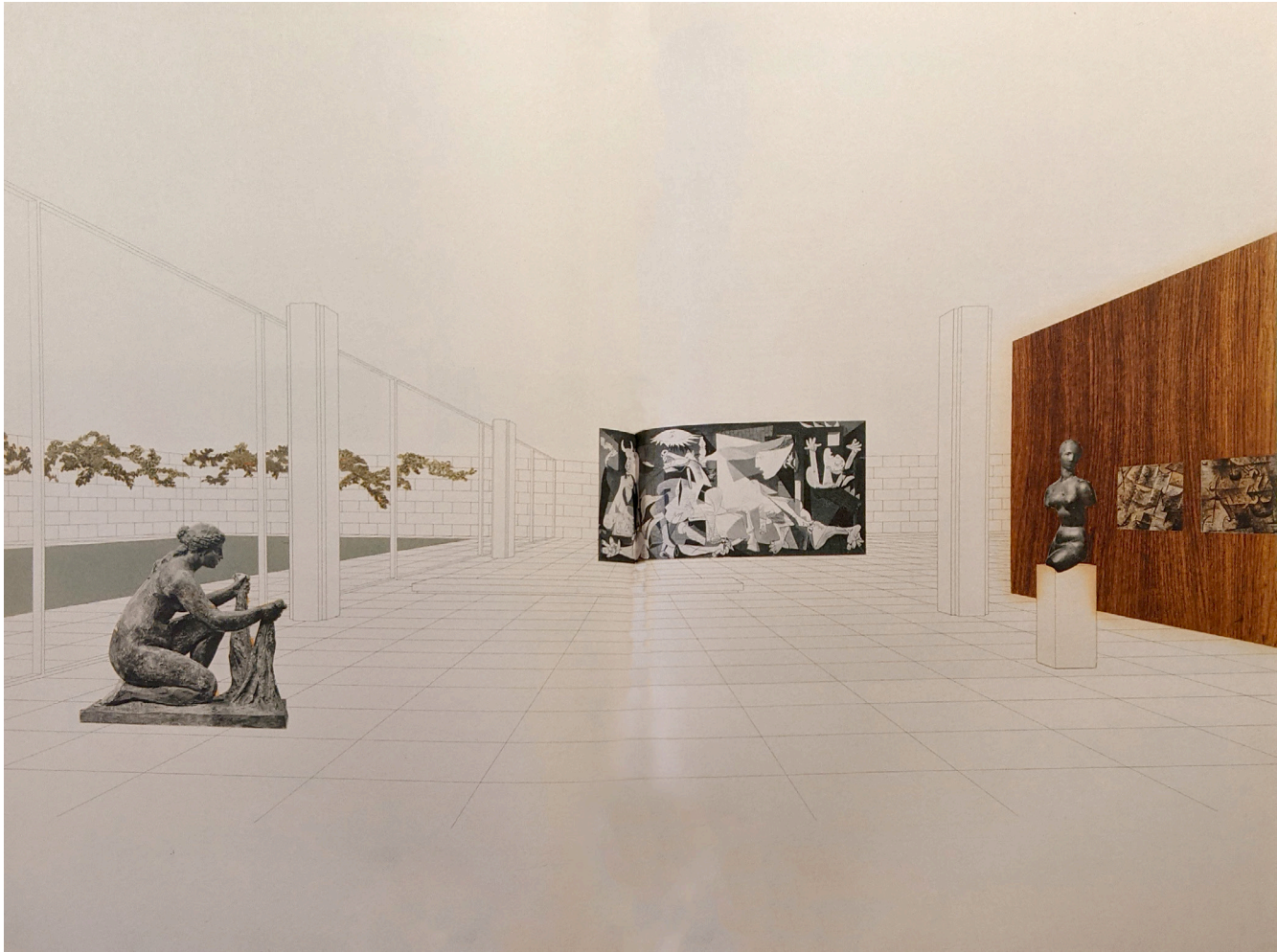


*Mies van der Rohe’s Museum for a Small City, 1941-43*

Ransoo’s understanding of the role the grid plays in Mies’ collages confirms the discoveries made at the beginning of this investigation. The grid anchors the elements of the collages, making the spaces they are creating much more legible to the viewer. A strong legibility of spaces lends to a stronger legibility of the relationships between the spaces, which Mies was always seeking to craft in his architecture. Mies will further develop his language of collage to use the grid and column as devices of depth as he works with the method more in his career.



*Mies van der Rohe’s Museum for a Small City, 1941-43*



*Mies van der Rohe's Neue Nationalgalerie, 1962-68*

# *FOREGROUND AND BACKGROUND*

## *HOW MIES ACHIEVED DEPTH IN THE PERSPECTIVE*

*“Mies is a master at placing things in space...  
to achieve maximum individual and total effect”  
- Philip Johnson (Ransoo 2006)*

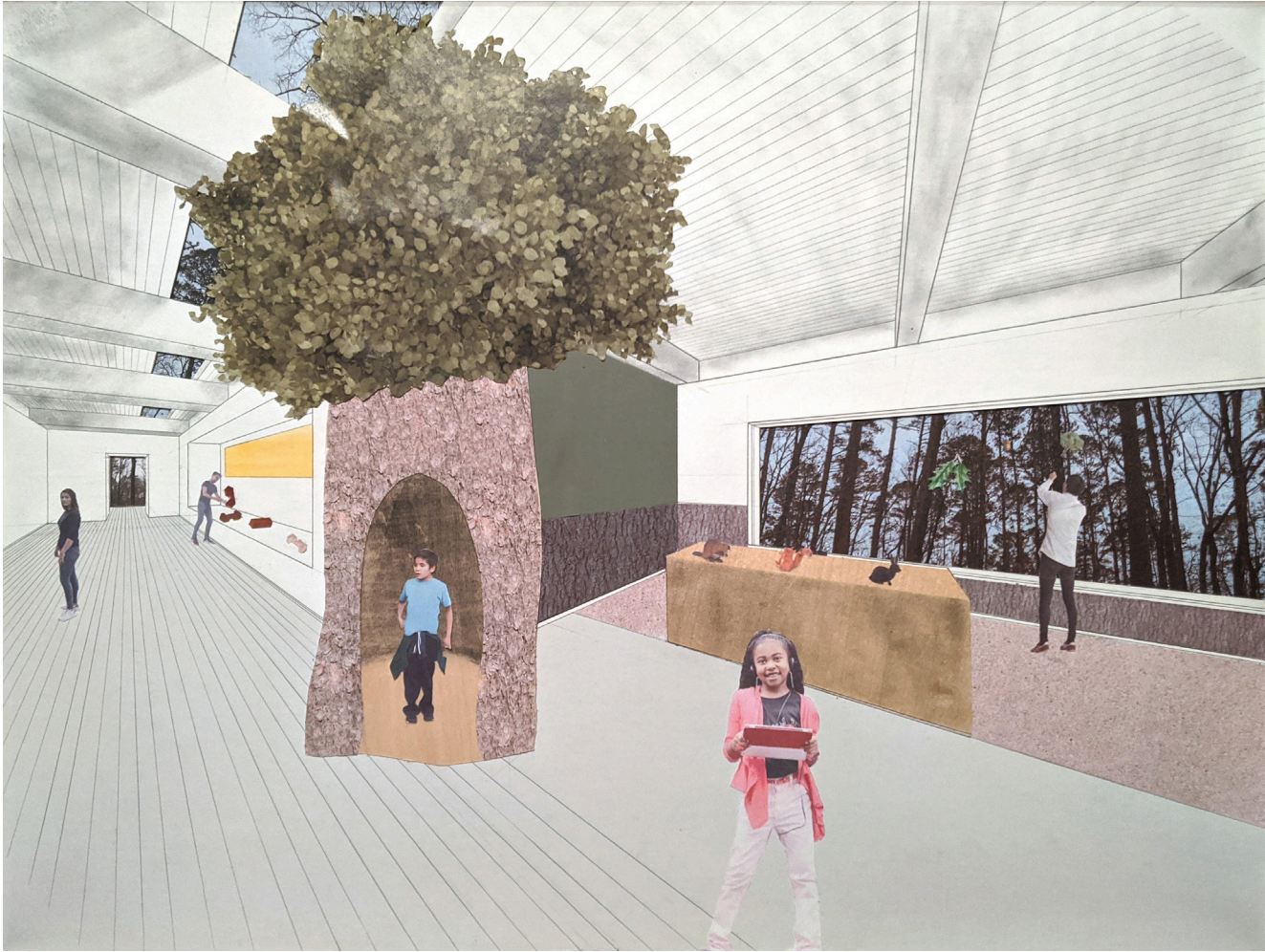


# Collage 4

The first drawing to take a deeper look into the role of foreground and background in the collages of Mies van der Rohe begs for an analysis into Mies' famous quote 'Less is More', which offers some insight into the thought process behind these collages. In his essay "*The 'Art of Building' of Mies van der Rohe*" Ransoo Kim quotes architect Philip Johnson to explain the relationship between Mies' mantra and the collages.

*"The phrase less is more, which eventually became a common term describing Mies' architecture, may have been coined by Philip Johnson, who wrote the following in 'Mies van der Rohe' (1947): 'As in architecture he has always been guided by his personal motto, 'less is more.' The sparseness of his installations focuses attention on each object and makes the arrangement of the objects all-important. Mies is a master at placing things in space. A minimum of stands, cases and partitions are disposed with studied exactness to achieve maximum individual and total effect.'" (Kim 2006)*

Ransoo argues that the restraint Mies is so well known for in his architecture, guided by his motto 'less is more', plays a very important role in the creation of his collages, as it is by this distillation down to what is important in the perspective that the collages offer a legibility to Mies' pure vision of the architecture. Collage four looks again at the Ross and Mary Whipple Family Forestry Education Center to further explore how the architecture may interact with and become a part of the forest that surrounds it. The attention to the apertures was of particular interest in the drawing, and the use of cut and remove as well as saturation that had been experimented with successfully in previous collages was again employed here. Being more conscious of the end viewer that would later view this collage absent of any architectural experience or education, this collage was the first to use actual people as scale figures to help show how people may occupy and use the space. Though Mies typically relied on the use of classical sculptures to convey the scale of his spaces relative to the person, his use of actual people can be seen in one of his collages for the Neue Nationalgalerie in Berlin. An investigation into other collages made by Mies that are also populated by literal things may suggest why he would have done so here. Looking at some of Mies' collages for the



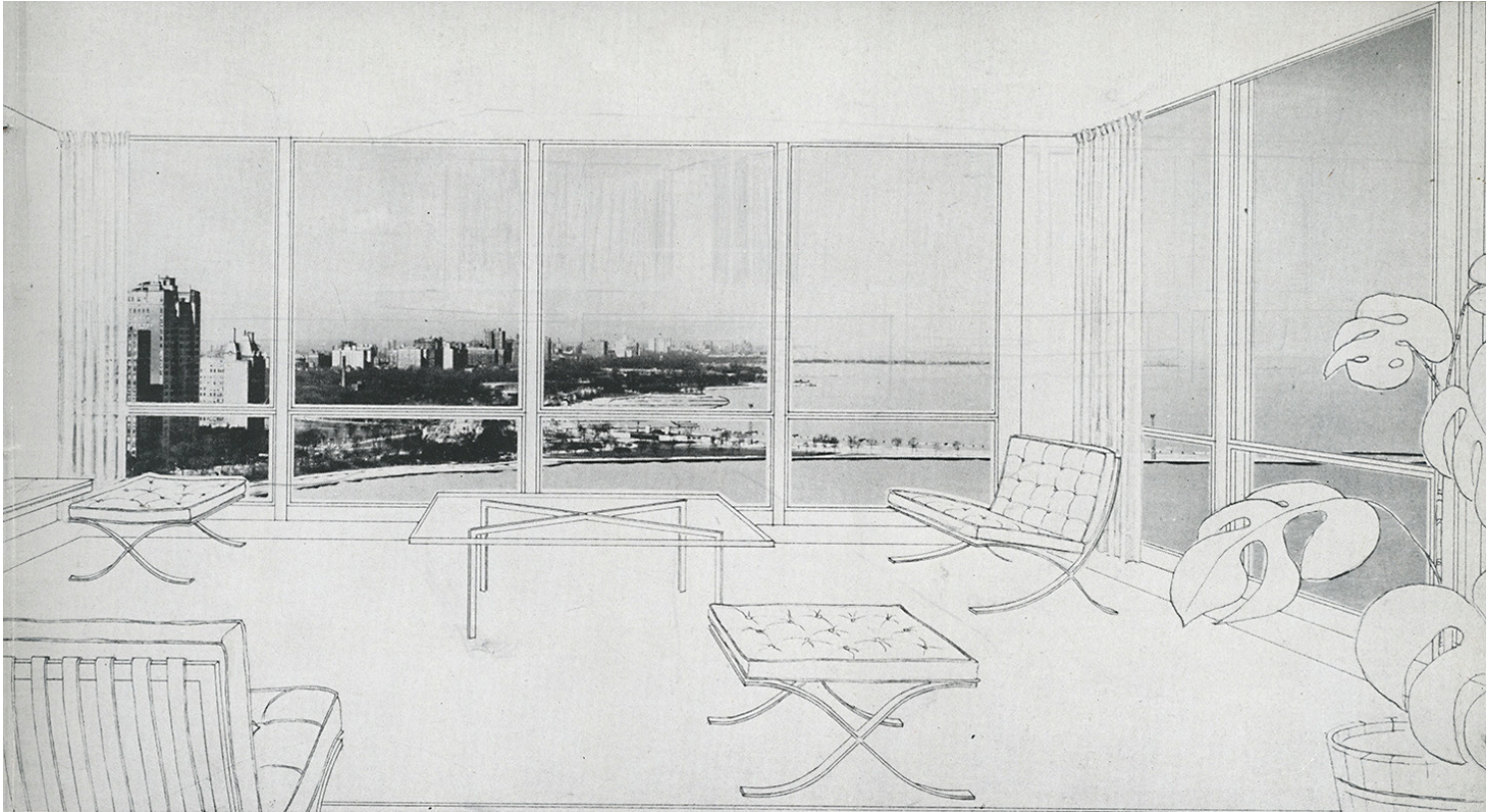
Collage 4

Lake Shore Drive Apartments, many of the drawings depict spaces that are inhabited by furniture and plantings. These are an anomaly in the collection of Mies' collage work and are much more literal than even the Neue Nationalgalerie. The fact that the Lake Shore Drive drawings were created for use in a brochure that advertised the apartments would suggest the possibility that a primary intention of these drawings was to convey the space in a language that was clear to anyone that may view it. Mies used collage to represent his spaces in their purest form, but is it possible that some of them could have been made to represent the spaces in a manner that others could more clearly understand? In returning to collage four of this investigation, it should be noted that the use of the classical figure was replaced with the use of literal human figures in order to make the drawing more easily understood by the stakeholders of the project who are mostly inexperienced in architectural design and in reading collages such as those created by Mies. The use of actual human figures can make the drawing more relatable and can help people outside of the design community better understand how the space is envisioned to be occupied. But why, then, not use a simple photograph of the spaces? As was referenced in the introduction to



*Hedrich and Blessing's Lake Shore Drive Photographs, 1950*





*Mies van der Rohe's Lake Shore Drive Apartments, 1950*

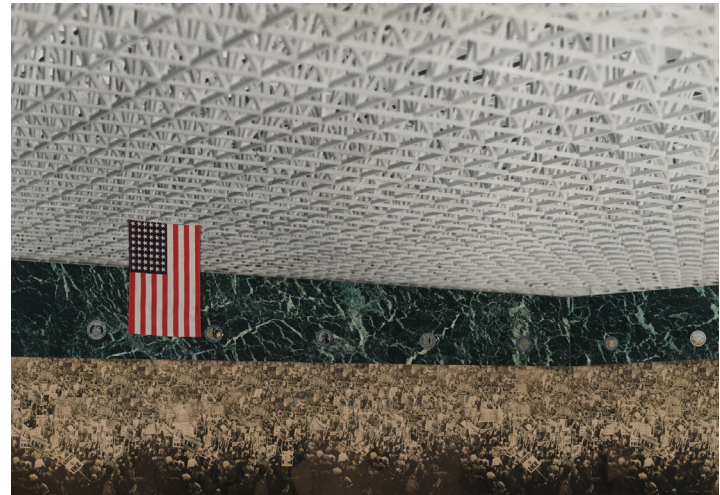


the investigation, Mies believed the montages were more capable of representing the purest form of the spaces.

*“The collages served to convey an architectural idea, and indeed, even after the project was concluded, Mies preferred to include the collages as illustrations when presenting the apartments, finding Hedrich and Blessing’s photographs of the open-plan rooms unsatisfactory. Mies thus decided to give precedence to the ideal image of his architecture rather than to photographic representation, even when the building had been completed.” (Belton et al., 2017)*

The more literal collages of the Lake Shore Drive Apartments in Chicago were a means of creating a middle-ground between the purest form of the space and a legibility to those without a background in design. In doing this they deviate from the language that Mies had created by this point, but they do so only to better pursue the ultimate goal of conveying the purest form of the project. Like the collage for the Neue Nationalgalerie, while the space in the drawing is crafted in a way that the use of material and the manner in which objects

occupy the space comes across more literal than they typically do in Mies’ collages, the drawing is still a valuable tool in designing the space. The potential for the client of the project to understand the drawing as well, however, is multiplied, making it doubly useful as both a tool of design and a tool of representation. The method of the Neue Nationalgalerie collage is also seemingly a callback to some of Mies’ early photomontages, though this drawing has a higher resolution than the earliest drawings of his career did, suggesting that Mies’ mastery of the method had developed and been honed by him across his career in architecture and design.



*Mies van der Rohe's Convention Hall Project, 1954*

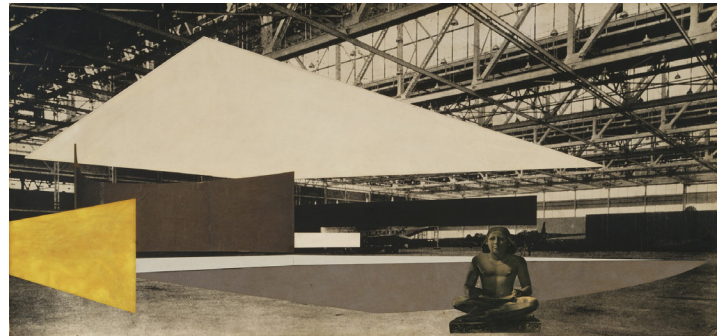


*Mies van der Rohe's Neue Nationalgalerie, 1962-68*

## Collage 5

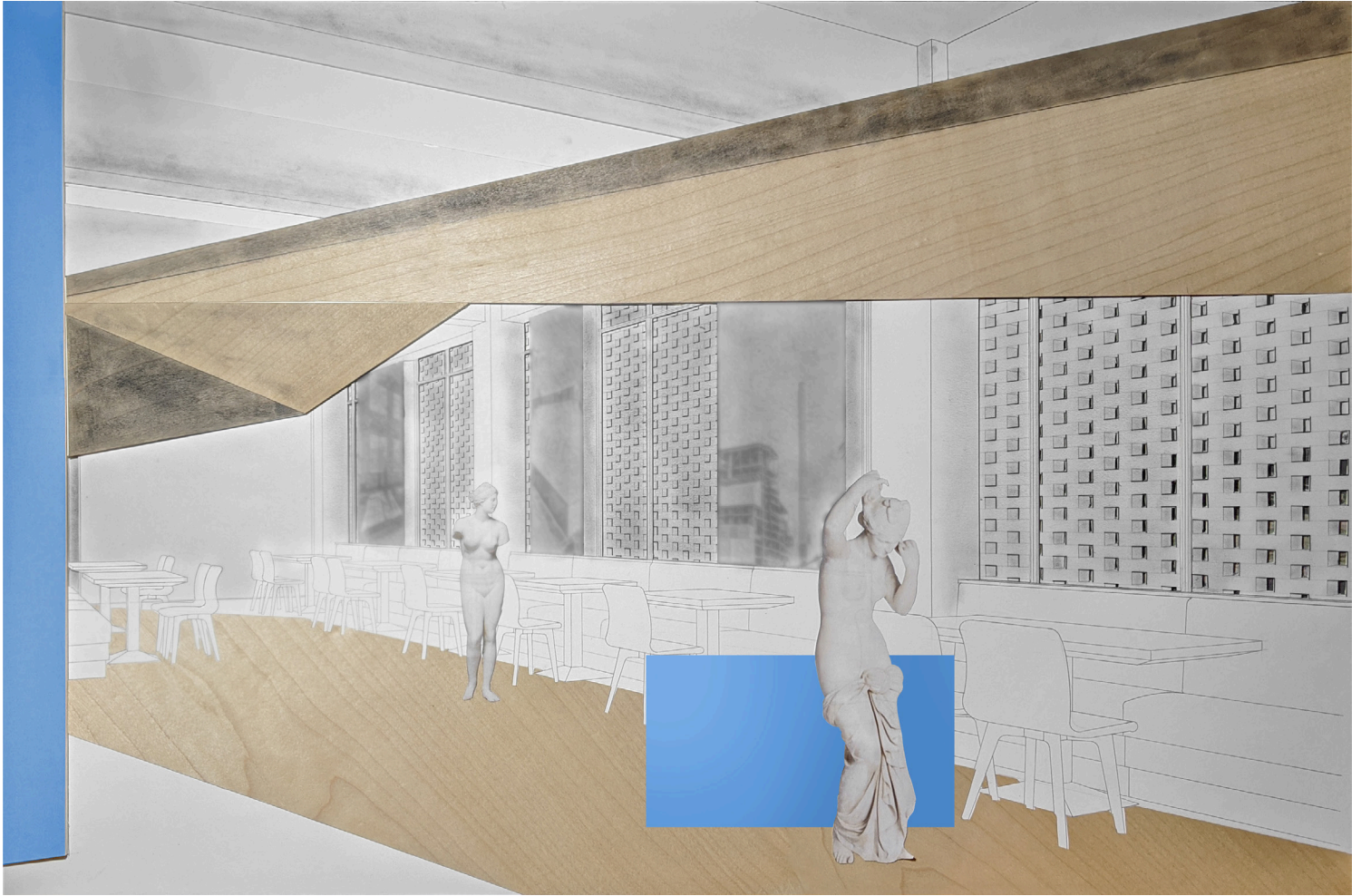
The fifth collage incorporates both ideas new to the investigation and ones that were observed in previous works. It returns to the use of the classical figure but includes all of the literal furniture, similar to the way that Mies did with the brochure drawings shown previously. The method of removing via cut is expanded upon and parts of the drawing that occupy the foreground are built up in layers of illustration board. The shadows created by this thickness really helps to convey depth in the space and was done to better show the action of “weaving” that is taking place inside of the room. This layering begins to shift the collage in the direction of acting as a bas relief would. Though there is precedent in Mies’ work for the inclusion of furniture in collage, this drawing perhaps makes it more apparent why he generally avoids this. The presence of the furniture in collage five doesn’t really contribute to the enhancement of any part of the drawing and is even detrimental to the legibility of the space. Maybe it is so because of the drawing’s existence in a limbo between representing the ideal to the architect and representing the literal space to another person. It becomes sort of a cross between the collages of the Row House and Lake Shore Drive.

The drawing does find success in the way in which it is able to convey the act of folding that is taking place at the level of the ceiling, and how the area that is occupied is framed above and below by the wood texture. Mies uses his surfaces to frame space in a similar manner in his collage for the Concert Hall, where the original image is suggestive of a warehouse-like space and a smaller space within that is framed by the applied textures at the level of the eye and the ceiling. The montage is even suggestive of a surface that curves and wraps the farther end of the smaller space, which is an action that is similar to the assembly of surfaces at the ceiling in collage five. Looking closer at this surface in Mies’ collage reveals that the architect even applied tone to the wall as it curved to provide some extra clarity its act of curving, similar to the use of tone on the undulating surfaces of the ceiling in collage five.



*Mies van der Rohe's Concert Hall, 1942*







## Collage 6

This sixth installment in the investigation attempts to learn from the successes and mistakes of the previous collage and create a new drawing that is a better, more pure, representation of the same space. The view returns to the one-point perspective and removes the furniture to try and reintroduce some spatial clarity to the image. Filling the absence of furniture is pasted artwork that is arranged to mimic the repetition that was present in the previous collage. This allows the furniture to still have some sort of presence in the drawing, even if it is abstracted, and hints at the intentions of how the space will be occupied by an array of multiples of a few different objects. The narrow space that the viewpoint is occupying meant that the collage was positioned much closer to an obstruction than any of the previous ones in this series, which resulted



*Collage Six, the first iteration*

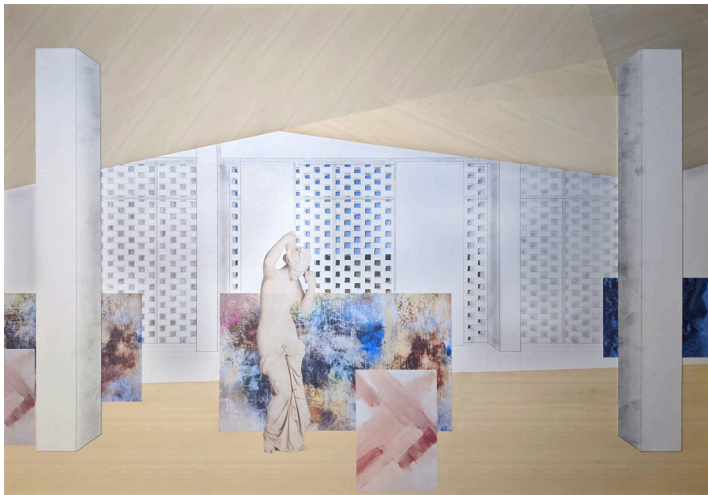
in a drawing that lacked the level of depth that the others had achieved and that is always present in the collages of Mies. In order to correct this lack of depth the floor and ceiling planes were extended forward to create space in the foreground of the drawing that may be occupied by the paintings from the first iteration of the collage, which have been pulled forward closer to the viewpoint. The human figure has also been pulled forward into the space so that it may occupy the foreground with the paintings. The foreground's clear presence in the drawing is achieved by the act of occupation that is taking place. Had these objects in the space remained where they were in the original iteration of the drawing the presence of the foreground would be diminished. The addition of two columns in the foreground are also key players in this act of occupation and in providing a sense of depth. Their clear relationship to the columns in the background gives the space in the collage layers by acting as references to the other occupying objects. The objects nearest the viewpoint sit at the same layer as the front columns, intermediate objects sit in the space between the two pairs of columns and are slightly darker, and the objects in the background exist in the same layer as the back columns and wall, and become noticeably darker. Interestingly, it is the columns that seem to contribute the most to the definition



Collage 6



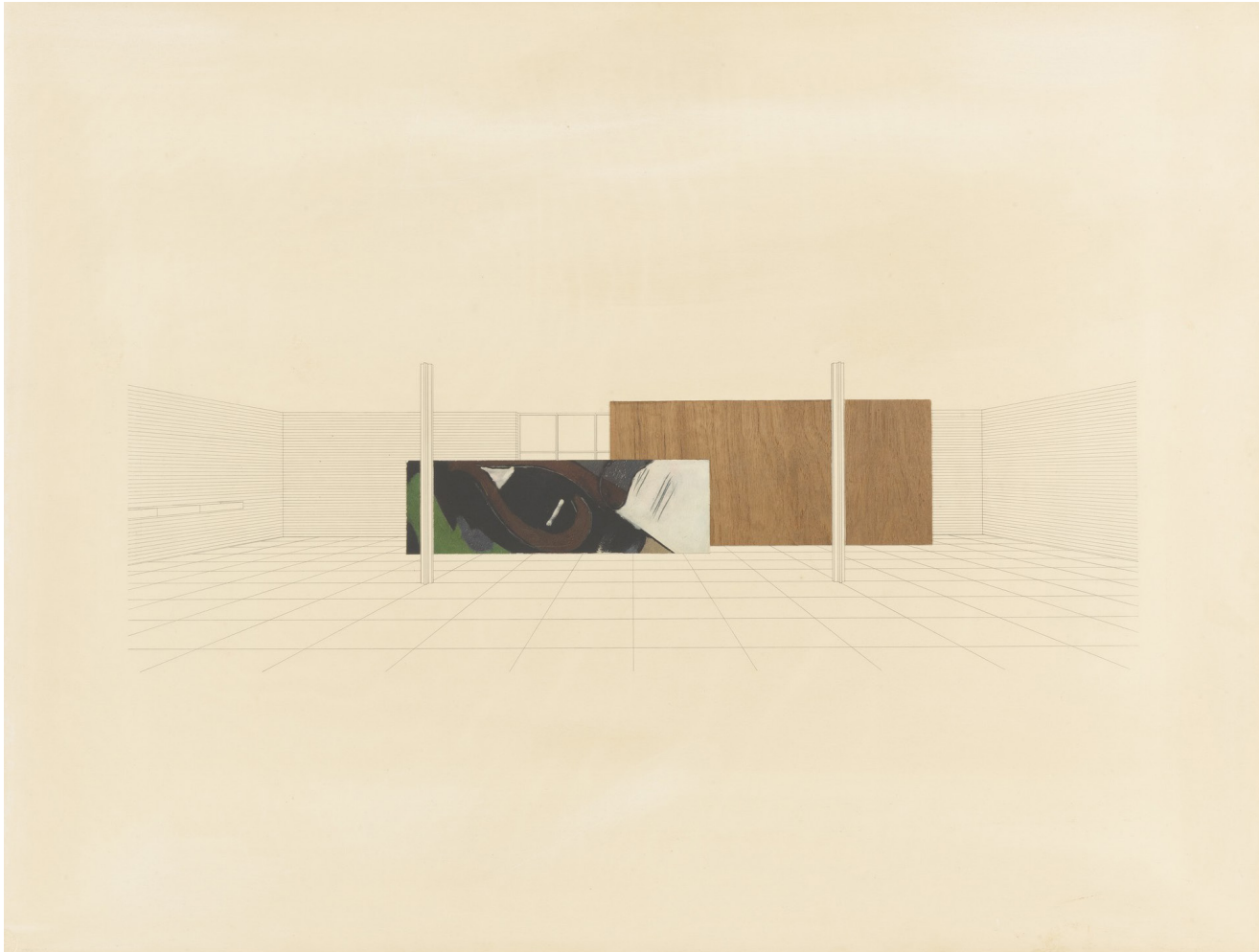
*Mies van der Rohe's Court House Project, after 1938*



*Collage Six, final iteration*

of these spatial layers, likely because of their regularity as a result of the grid. The equal spacing between the columns is a means of understanding where they exist in the space relative to each other and is clearer than the legibility that would be obtained solely from objects aggregated throughout the space. The columns, and thereby the grid, then become a tool for telling the stories of the rest of the objects and where exactly they exist within the space. The use of the grid and columns in this way is seen in Mies' drawings of the Court House Project in 1938 (pictured left) and the Row House with Interior Court Project, also in 1938 (pictured right). Both of these drawings place the columns in the foreground of the collage and allow them to exist in front of the objects pasted into the space, while the objects exist in the layer that lies between the columns and the wall in the background. It is likely that one of the reasons for having these columns in the grid is to act as a reference for objects in the space in the perspective. The grid has the ability to do this easily in the plan, and it is also clearly visible in the perspective, but the column, unlike the grid, has the advantage of being able to physically occupy the space so that it may overlap with other objects and provide even more legibility in the perspective, which is how the space is viewed by those occupying it.





*Mies van der Rohe's Row House with Interior Court Project, after 1938*



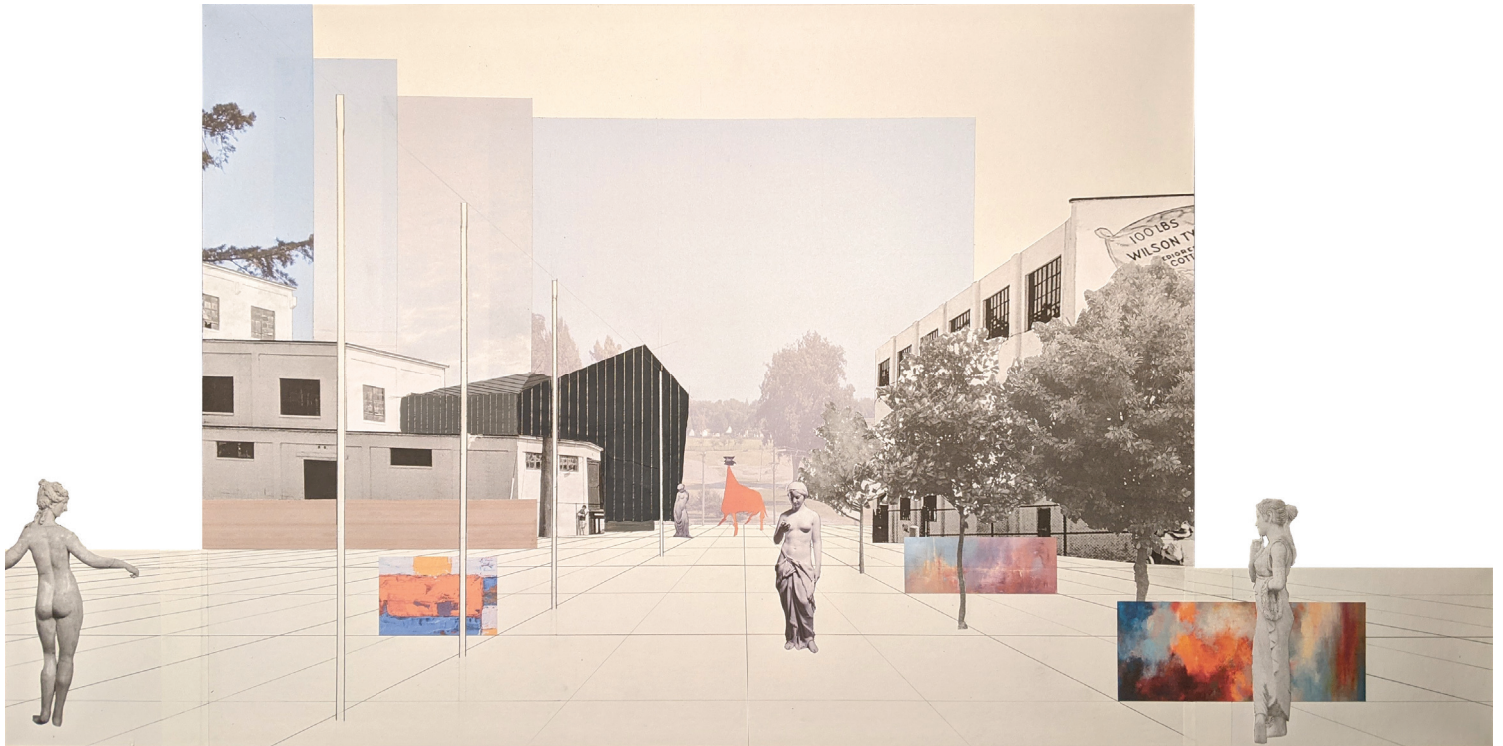
# Collage 7

The seventh installment of the study attempts to reconcile the discoveries made in the first six collages, with the first three determining that Mies' collages were structured by the grid and the column, and the next three looking at how Mies used foreground and background to create depth and space and why this device is important in the art of Mies' collage-making. Collage 6 in particular established that the column is a good tool for translating the grid into the third-dimension to allow it to overlap and intersect the surfaces in the space, making it a



*Collage 7, the first iteration*

means of establishing an understanding of depth to the eye of the viewer. Collage seven is the first in the collection to have an exterior setting for the station point of the perspective. Revisiting a project designed in Wilson, Arkansas, part of the proposed plan for rejuvenation of an important site, located directly across a major thoroughfare from the small town's square, sought to renovate the space between two historically significant structures into an active, urban plaza. This is the only collage that breaks the rectangular frame founds across the rest of this collection and across Mies' work, a response to the first iteration of this collage. The breaking of the rectangular frame is used as a tool to bring more emphasis to the lacking foreground and bring more depth to the image. The presence of depth is enhanced with the use of the grid as the converging horizontal lines towards the vanishing point accentuate the action of the space extending away from the station point. Additionally, there are two instances of column in the drawing. The columns on the left are more normative instances of column as has been seen in the rest of the investigation, both in the newly created collages and in the collages of Mies van der Rohe. The "columns" on the right, however, may not even be understood as columns at first glance, and take precedent from a drawing Mies made of the Cullinan Wing Addition for



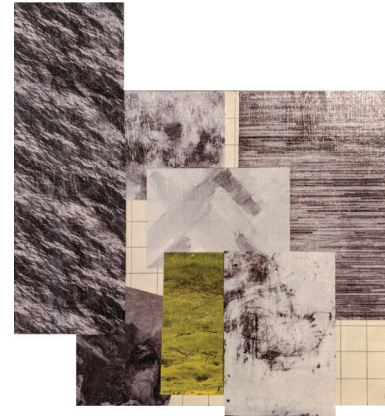
*Collage 7*

the Museum of Fine Arts Houston. Despite the nearly universal importance of the exterior in Mies' collages, the drawing of the Cullinan addition is a rare instance of the station point for the perspective actually being located outside. Despite the fact that Mies does not have a roof overhead that needs to be supported, he does not abandon the language he has defined for his collage-making practice. He begins with the foundation of the grid, providing a means of organizing parts of the perspective in space, and in place of cruciform columns to translate this grid into the third-dimension Mies uses trees, whose slender trunks grow from the grid and share the same tectonic qualities as columns would in this space Mies is sculpting. Then, similar to the horizontal stratifications of the grid, the trees converge towards the vanishing point,

enhancing the perception of depth in the space. Interventions in the space, a low rising partition and a selection of statues to provide the space with scale, are organized on the same grid as the trees, as is a cut into the surface of the ground to create an opportunity for a shallow reflecting pool. Collage 7 uses Mies' Cullinan collage as a precedent for using trees as space-making and depth-enhancing tools of architecture. The exterior setting creates a cap-less perspective, absent of an upper plane for a ceiling, that allows the components of the drawing to extend higher into space. This higher elevation is affected by the perspective exponentially; the taller an object is, the more distorted it becomes as it angles down to point towards the vanishing point. This distortion enhances the legibility of the implications of perspective in the space.



*In the Forest, 2020*



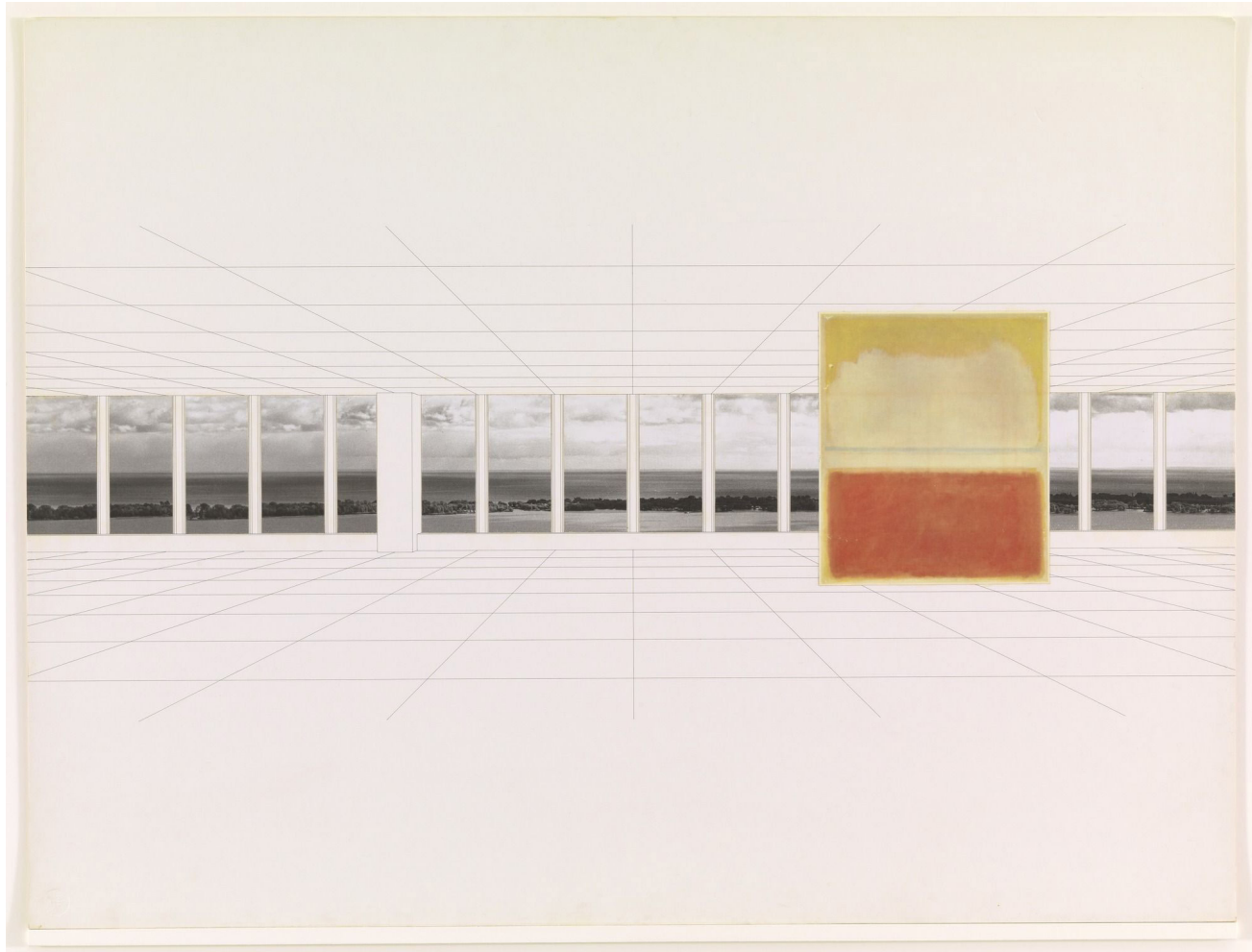
*Pervasion, 2020*





*Mies van der Rohe's Cullinan Wing Addition for the Museum of Fine Arts Houston, 1954*





*Mies van der Rohe's Georg Schaefer Museum Project, 1960-63*

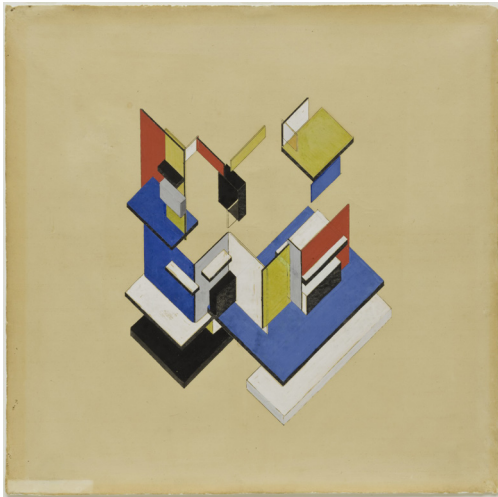
# ONE VERSUS TWO

## MIES AND PERSPECTIVE

*"[Mies'] persisting in the use of linear perspective, is due to his understanding of architecture, first of all, as a visually perceived medium." (Pimentel 2015)*

## Collage 8

Mies van der Rohe was active in architecture at an exciting time when the industry was evolving, becoming much more adjacent to art, and the expression of architecture was much more experimental. Mies' inner circle, populated with noteworthy artists, designers, and writers of the time such as Theo van Doesburg and El Lissitzky as well as members of the Bauhaus, were experimenting with the design, creation, and representation of architecture. Theo van Doesburg is well known for his axonometric experimentations with space-

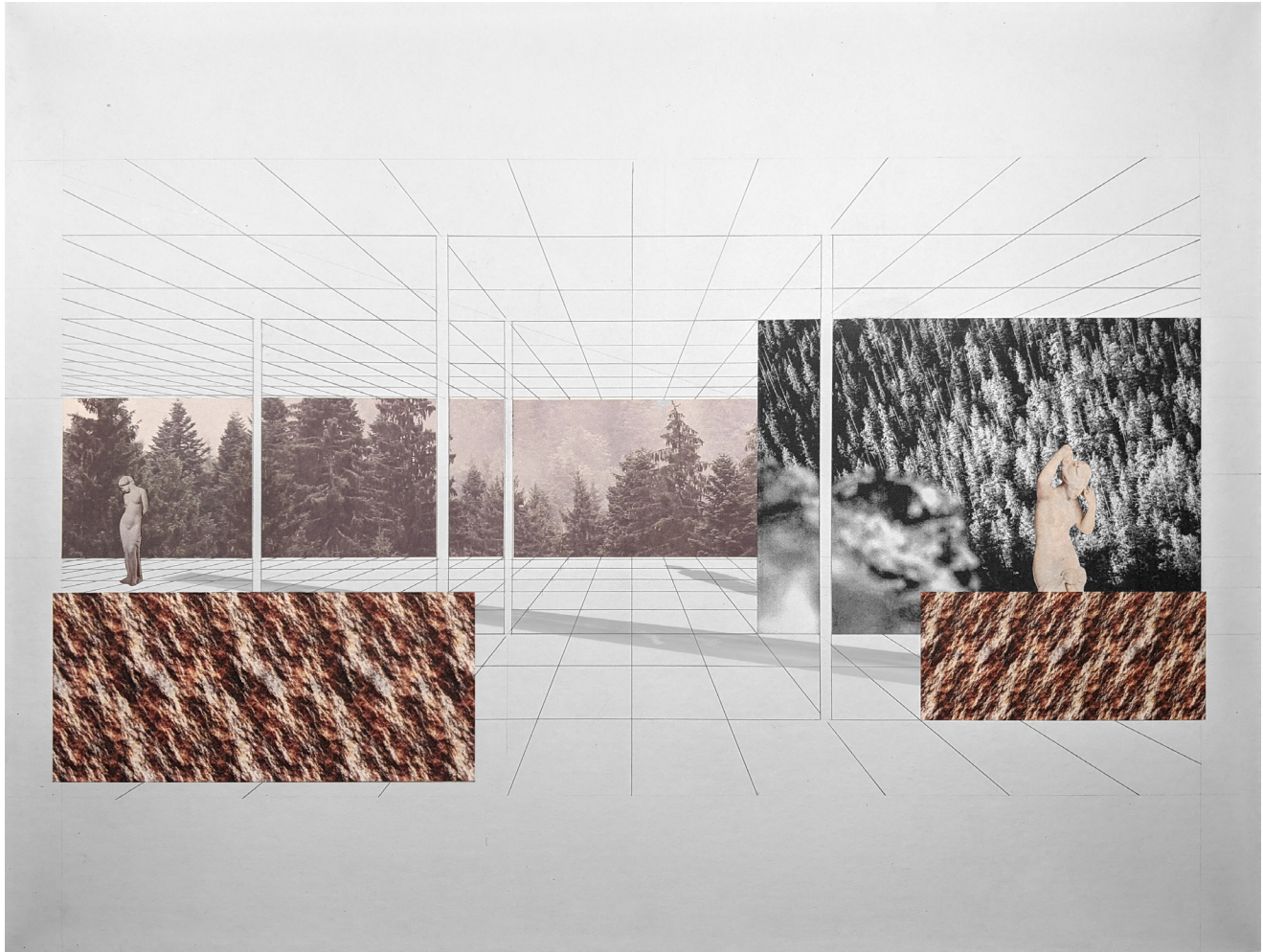


*Theo van Doesburg's Contra-Construction Project, 1923*

making, which emphasized the significance of color and abstracted the realities of building surfaces. El Lissitzky was a pioneer of the potentials of montage in architecture like Mies, most notably with his well-known montage of his *Cloud Iron* project. Mies' interests were much more similar to those of El Lissitzky than of van Doesburg because Mies was, above all else, interested in how people saw and experienced the spaces he was making. The axonometric drawings that were becoming increasingly popular during his career were too detached from the reality of how someone witnessed architecture for Mies to find and use in the drawing type.



*El Lissitzky's Cloud Iron Montage, 1925*



*Collage 8T*



In his essay ‘Collages and Photomontages in Architectural Representation. The Photographic Works of Teófilo Rego’ Jorge Cunha Pimentel notes this adversity that Mies held to using the axonometric as a tool of design.

*“Those photomontages associated with an illusionist perspective don’t break the consistency of the space in the image. His refusal to use other techniques such as the axonometrics – photomontage and axonometry became popular forms of architectural representation at the same time – persisting in the use of linear perspective, is due to his understanding of architecture, first of all, as a visually perceived medium.” (Pimentel 2015)*

The concluding collages of this investigation into the method of choice by Mies van der Rohe use the devices discovered in the previous entries to produce new collages that alternate between Mies’ alternative perspectives: the one-point and the two-point. The majority of the collages that Mies made during his career used the one-point perspective. In the MoMA exhibition of his collages and montages only about ten percent of the drawings made use of the two-point

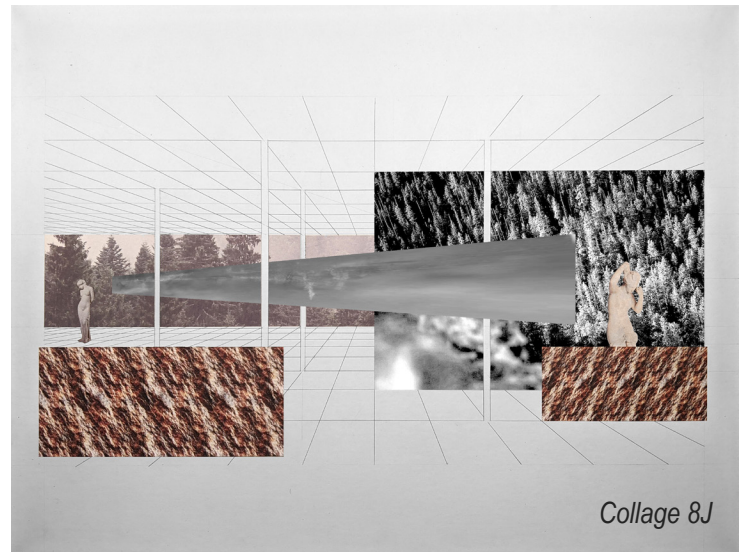
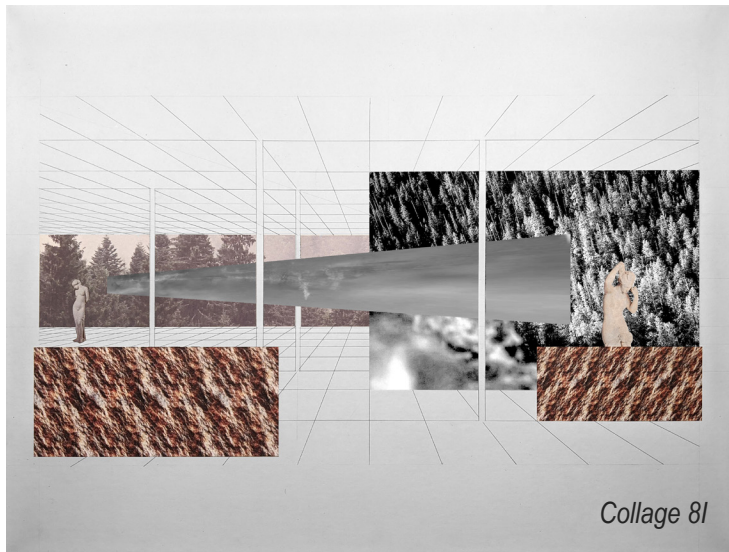
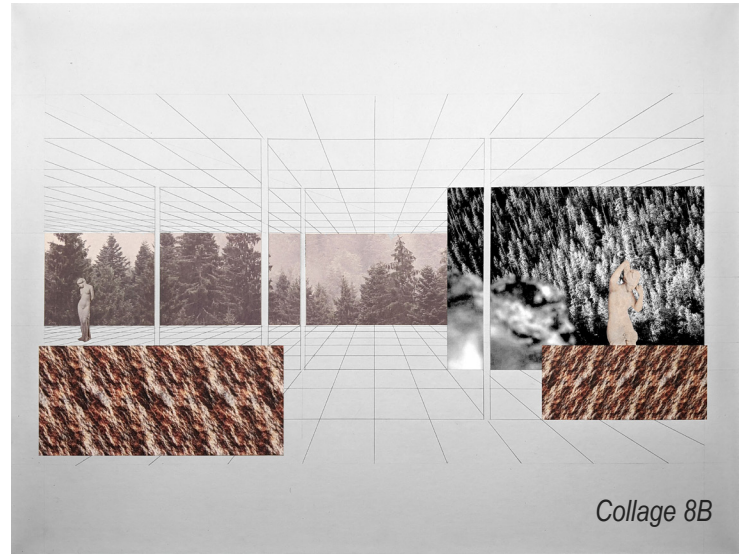
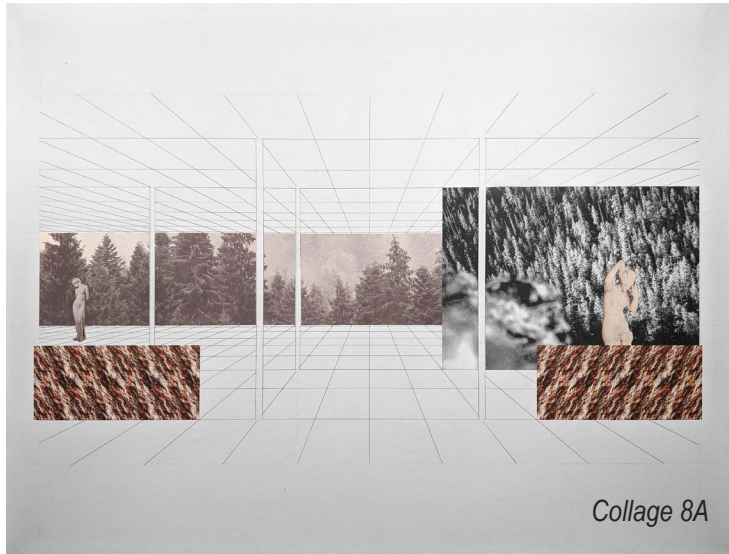
perspective. So what is it about the one-point perspective that calls Mies to it nearly every time? Collage eight is used to develop a space intended for exhibition, a museum both of what resides in the interior space and of the nature that sits just outside of the architecture. The drawing uses plenty of columns inside the space to strongly emphasize the presence of the grid in the third dimension. Two low-rising planes are set in the foreground to create a threshold into the space while maintaining a visual connection into the space from without it. The collage also has some of the strongest use of textures yet in the investigation, aiming to explore the tactile qualities of the space and exploiting the inherent advantages collage has over sketching. The space also uses the discovery of the Resor House’s advantage of the thin, delicate column to prevent the structure (of the drawing *and* of the space) from cutting apart the view to the exterior environment that the space prioritizes.



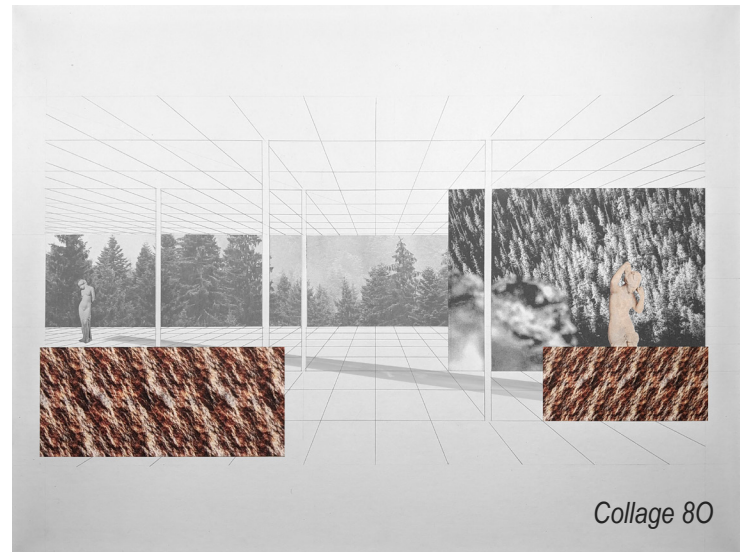
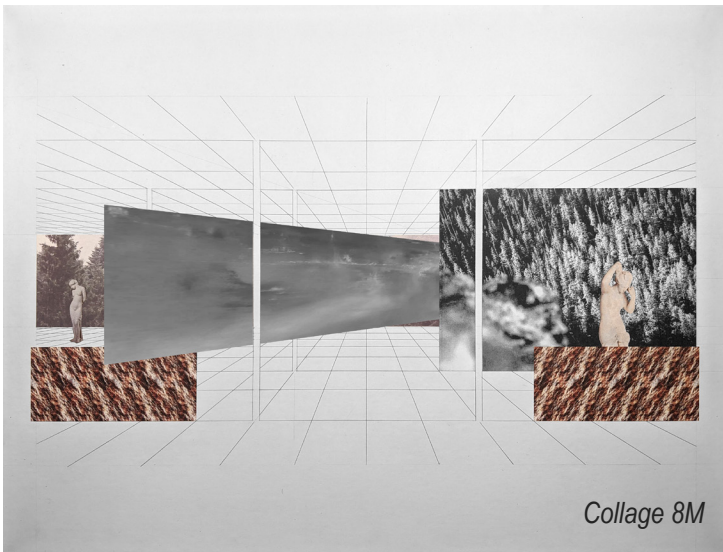
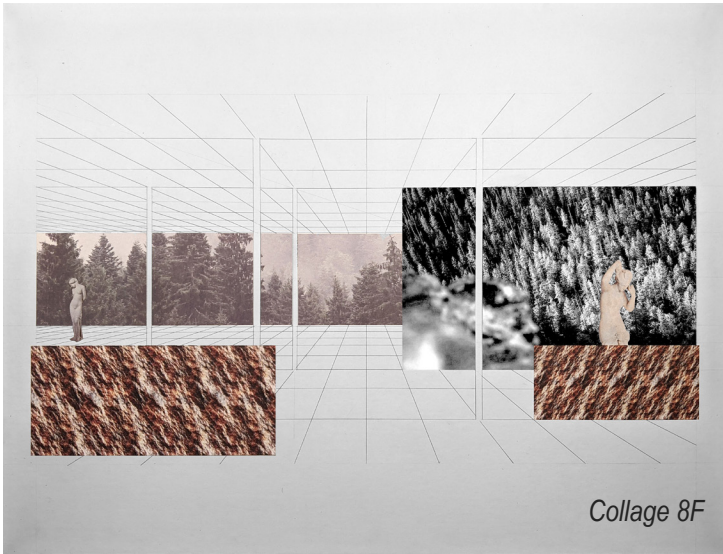
*Mies van der Rohe's Resor House, Looking North, 1938*



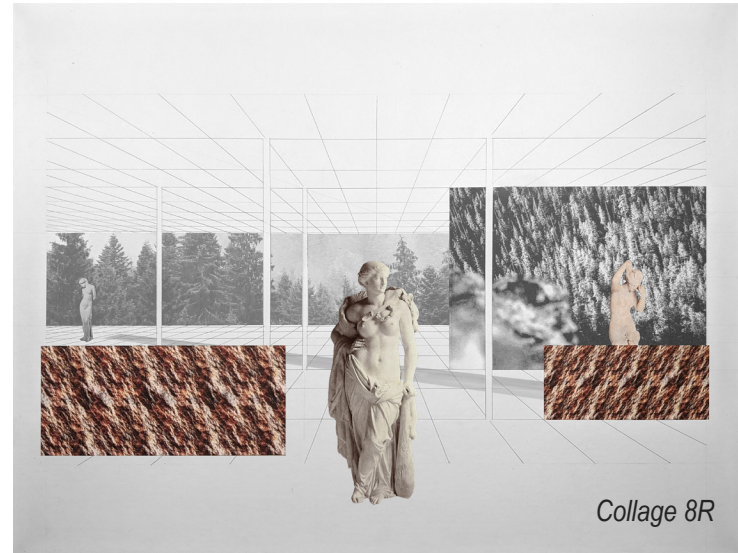
*Mies van der Rohe's Neue Nationalgalerie in Berlin, 1962-68*





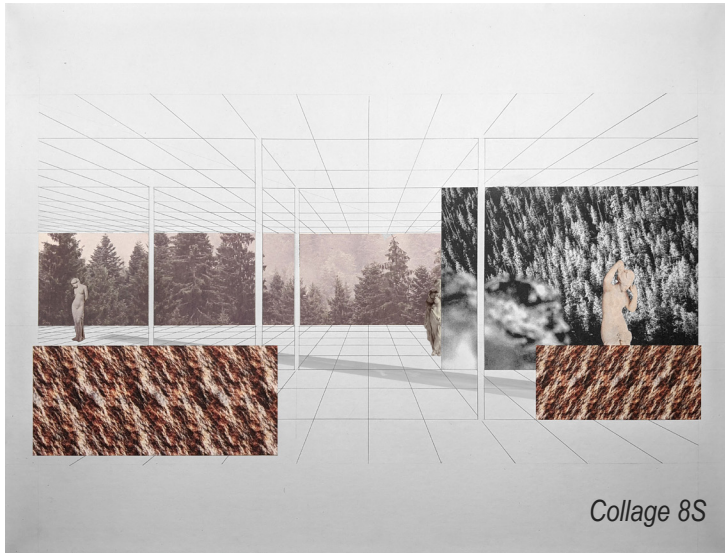




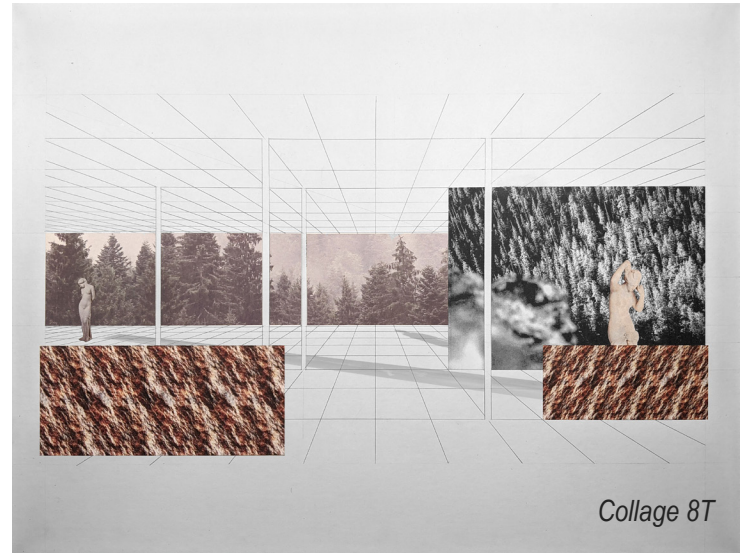


Collage eight was then scanned and manipulated digitally in Photoshop in quick, successive iterations resulting in twenty options in all. This format of experimenting through editing the collage enabled them to procure realizations about the space, as well as the method, at a much faster rate than is achievable when working exclusively by hand with physical cutting and pasting. The alteration from Collage 8A to Collage 8B was the scalar manipulation of the left foreground surface, where the second iteration suggests that the plane has moved forward closer to the station point, now occupying a different vertical plane in the space than its sibling surface that defines

the other side of the threshold. Collages 8F and 8G both focus on a similar scalar manipulation, now of the larger surface in the mid-ground of the drawing. These iterations play with how near or far the plane sits in the space relative to the viewer, and how far it extends from the right side of the image and into the path of the eye. The rest of the iterations look at how the different spaces in the drawing may be connected, each with varying levels of literalness. Drawings 8I, 8J, and 8M take a much more literal and exaggerated approach to this connection, experimenting with an actual surface that would physically occupy the room and connect the spaces together.



There is play in which side the plane is coming from and in weaving the plane in between different columns, adjusting the perception of at what angle the surface moves through the space. Collage 8O is the first to replace this physical plane with the shadow of it, toying with how light and shadow can be just as successful at suggesting connections between spaces. This shadow is subjected to similar operations of weaving and shearing through collages 8P and 8R to experiment how it might inhabit the space. Drawing 8R offers a compelling suggestion of populating the foreground of the drawing with a powerful figure occupying the threshold, further enhancing



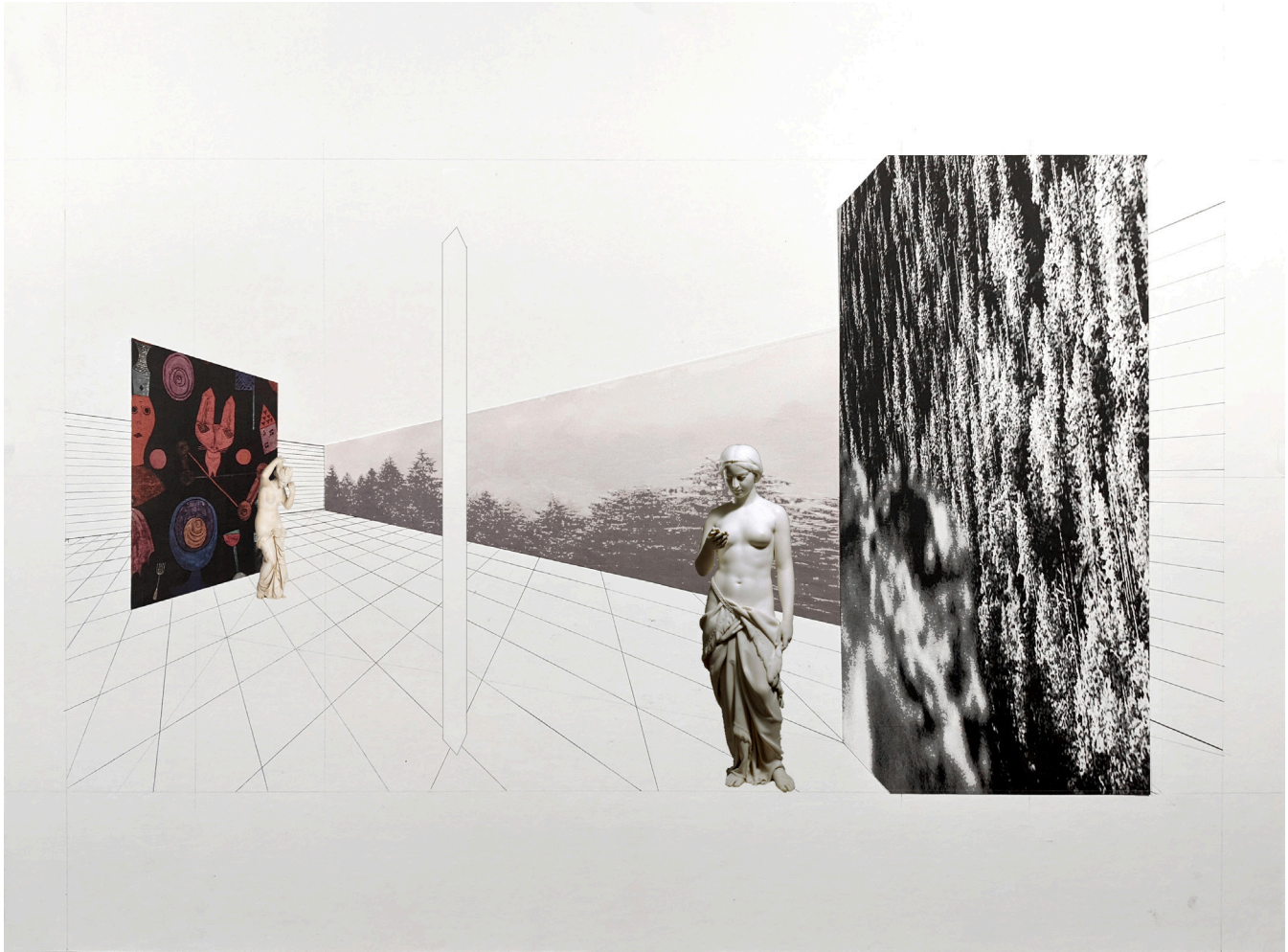
the perception of scale, but in this iteration, the subject of the drawing is no longer the space but the foregrounded figure itself. In the words of Mies, less is more. Collage 8S wants to replicate this suggestion of scale and occupation, but in a way that is not so overt as to undermine the presence of the architecture. The new figure now hides behind the mid-ground surface, only a portion of its silhouette peeking out past the extents of the surface. Finally, Collage 8T takes the subtlety of the figure one step further, completely eliminating the figure and suggesting its occupation solely through the presence of its shadow projecting towards the perimeter of the space.

## Collage 9

Collage nine was a means of pushing the boundaries of Mies' language of collage. It sought to reduce the representation of the space to its bare bones, removing anything that was deemed unnecessary and even push against some of the earliest discoveries in the process. This exhibition space most notably removes the grid columns, opting instead to only use one in the drawing. The column was a component of Mies' language that these drawings deemed as integral to most of their successes, as early as the first collage in the investigation. Number nine tested these conclusions that were determined so early on. Even collage seven, set outside of the formal architectural space, uses Mies' drawing of the Cullinan Wing Addition as a precedent for trees occupying the exterior space on the grid to do the same work as columns in an interior space. The use of a single column in the space is not enough to translate the presence of the grid into the three-dimensional, occupiable space. This translation of the grid is unsuccessful if the means of translation do not have the same qualities as the grid. This means that the columns, used as the means of translation, require quantity and repetition to simulate the infinite surface of the grid. The abandonment

of the one-point perspective is another deviation from Mies' language of collage. The test of collage nine proves that there is a potential to distill too much, showing the skill that Mies held in including just the right amount of content and of what to include. Removing too much information from the drawing and barring too many devices from the construction of perspective noticeably hinders the legibility of the space that the collage is attempting to show. It is these deviations from Mies' specific way of using the method of collage that results in the perspective lacking any meaningful depth. While the drawing may initially appear deep, this depth is superficial and only comes from the extreme distortion of the perspective within what is in reality a shallow space. This lack of depth in the drawing also results in a lack of any significant spatial relationships. The space is not able to be meaningfully divided in the perspective due to how shallow it is, and without the opportunity to make spaces there is no opportunity to design spatial organization and connection. In its creation collage nine attempted to challenge the earlier determinations of the investigation, challenging their integrity, and by its failures to do so the investigation found success. Additionally, the relationship between collages eight and nine informed the conclusion of this process with collages ten and eleven comparing perspectives.





*Collage 9*

# Collage 10

The one-point and two-point perspectives are deceptively similar in appearance. It is the one-point perspective that affords the artist greater control over the space, with fewer factors that go into its creation. It is the two-point perspective that is much more similar to what people most often see when they inhabit the world, and it is the two-point capable of showing spatial organization in two axes. Michael Cadwell discusses the role of the perspective relative to the architecture of Mies van der Rohe in his essay “*Flooded at the Farnsworth House*”. He talks about the realization of the drawn perspective as a physical construction at the Farnsworth.

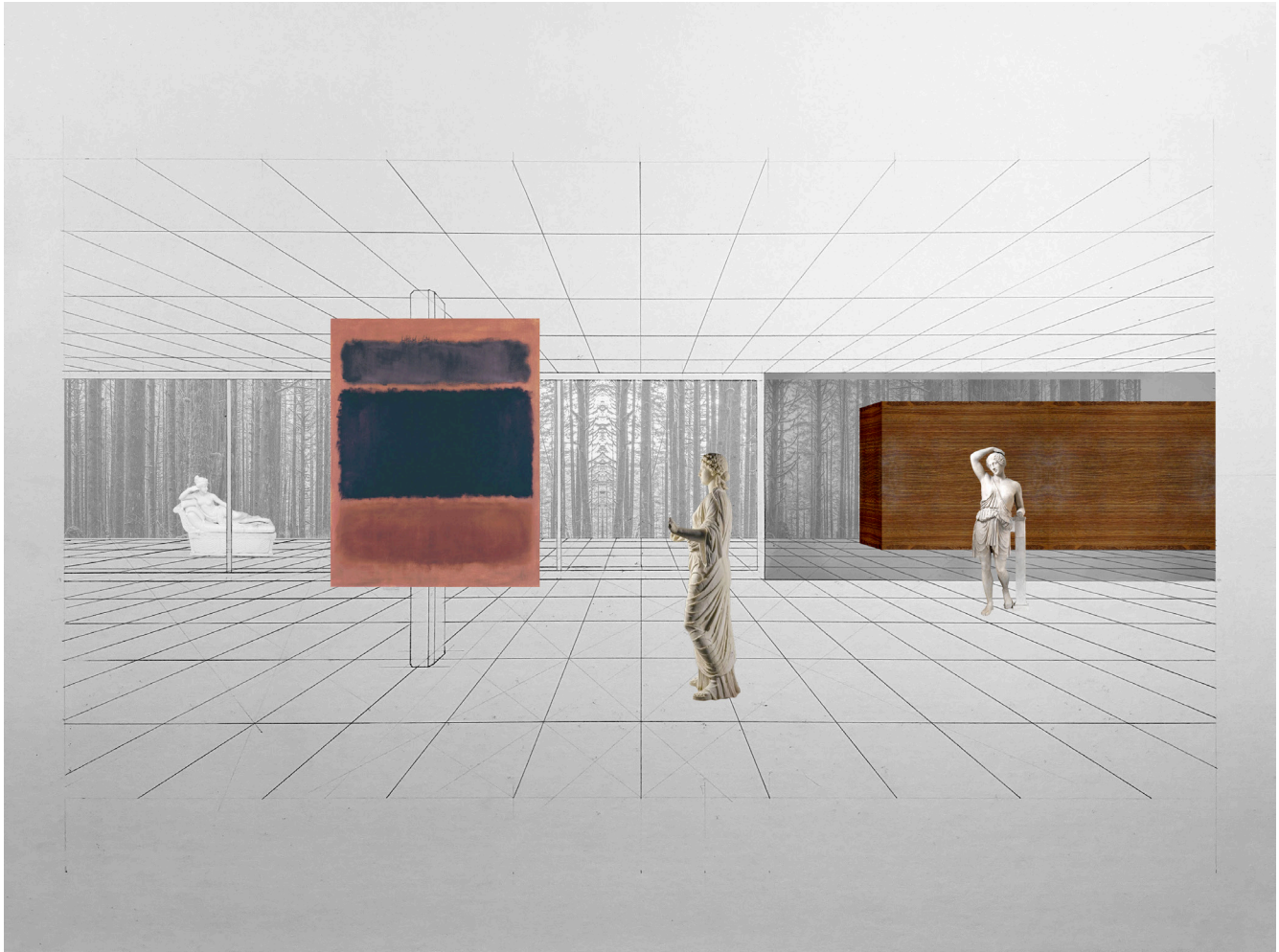
*“What the steel frame **was** did not concern Mies, what it **did**, did. And what the frame did was approach the laconic splendor of the line-drawing. Specifically, it is perspective drawing that erases any distraction from the persistent thrust of its projecting lines so that they play of house and landscape can unfold into a final erasure – the erasure of perspective’s dominance.” (Cadwell 1993)*

Cadwell is interested in the capability of the perspective as a tool to recede away into the drawing. The perspective is the format of the drawing but the device itself is invisible, allowing the space in the perspective to become the subject of observation. Cadwell continues in his essay with notes about the horizon line and the manipulation of the grid to enhance the perspective.

*“The floor’s five-foot elevation eclipses the horizon...Dry set, the pavers are dead level and have a long dimension that runs parallel with the rectangular platform. Thus, they register perspective with a subtle persistence, one that gives rise to a curious confluence of*



*Mies van der Rohe's Farnsworth House, 1945-51*

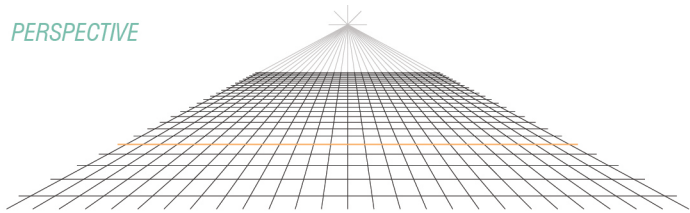


*Collage 10*

*perceptions...you see that the travertine's grain also runs parallel to the river's flow." (Ibid)*

Cadwell notes that the longer direction of the travertine pavers, running perpendicular to the viewer's line of sight as they ascend the deck to the Farnsworth House, "register perspective with subtle persistence", meaning that this directionality impacts the perception of the perspective. In Mies' use of the grid as an articulation of the ground plane throughout his portfolio, he rarely departs the use of the square

PERSPECTIVE



PLAN

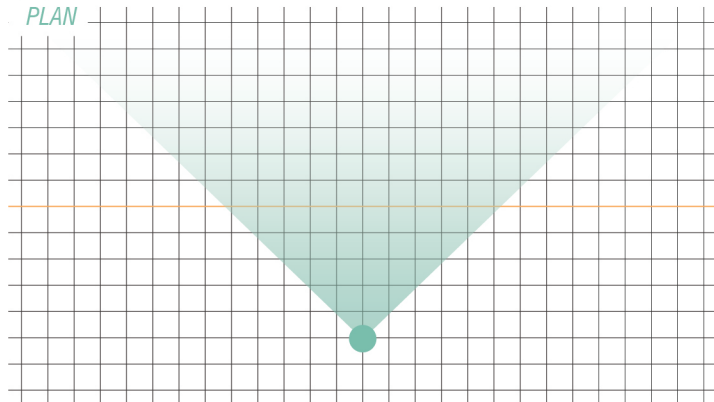
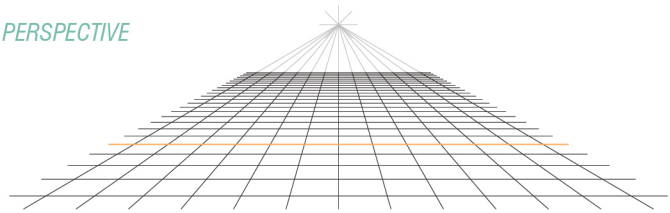


Figure 6A

grid, suggesting that the decision to do so at the Farnsworth House was made for a very specific reason. Figure 6A, below, is the plan and perspective of the square grid compared to the linear pattern during the conclusion of the Grid and Column studies. Figure 6B offers the same drawings, but now of a grid that is made of rectangles twice as wide as they are long. When comparing the perspectives of Figures 6A and 6B, the wider grid experiences not only a shift in the perception of scale but also a change in the recognition of the perspective. The grid in Figure 6B appears to stretch the view horizontally,

PERSPECTIVE



PLAN

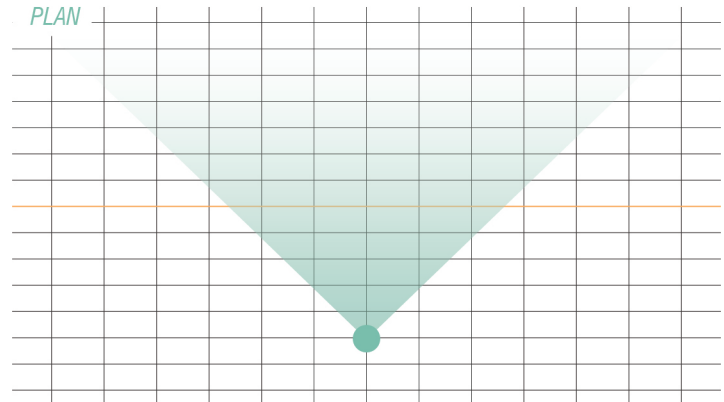
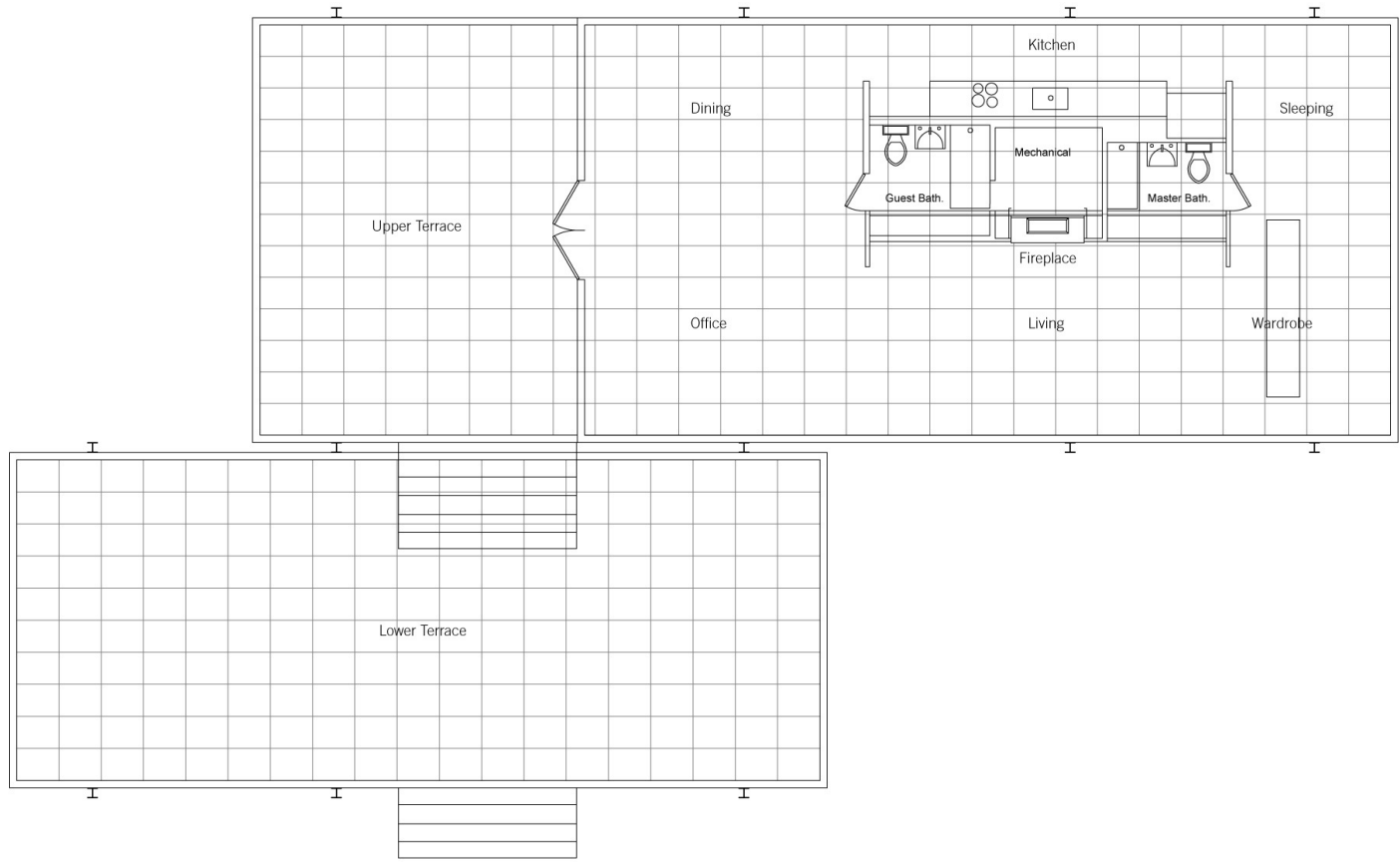


Figure 6B

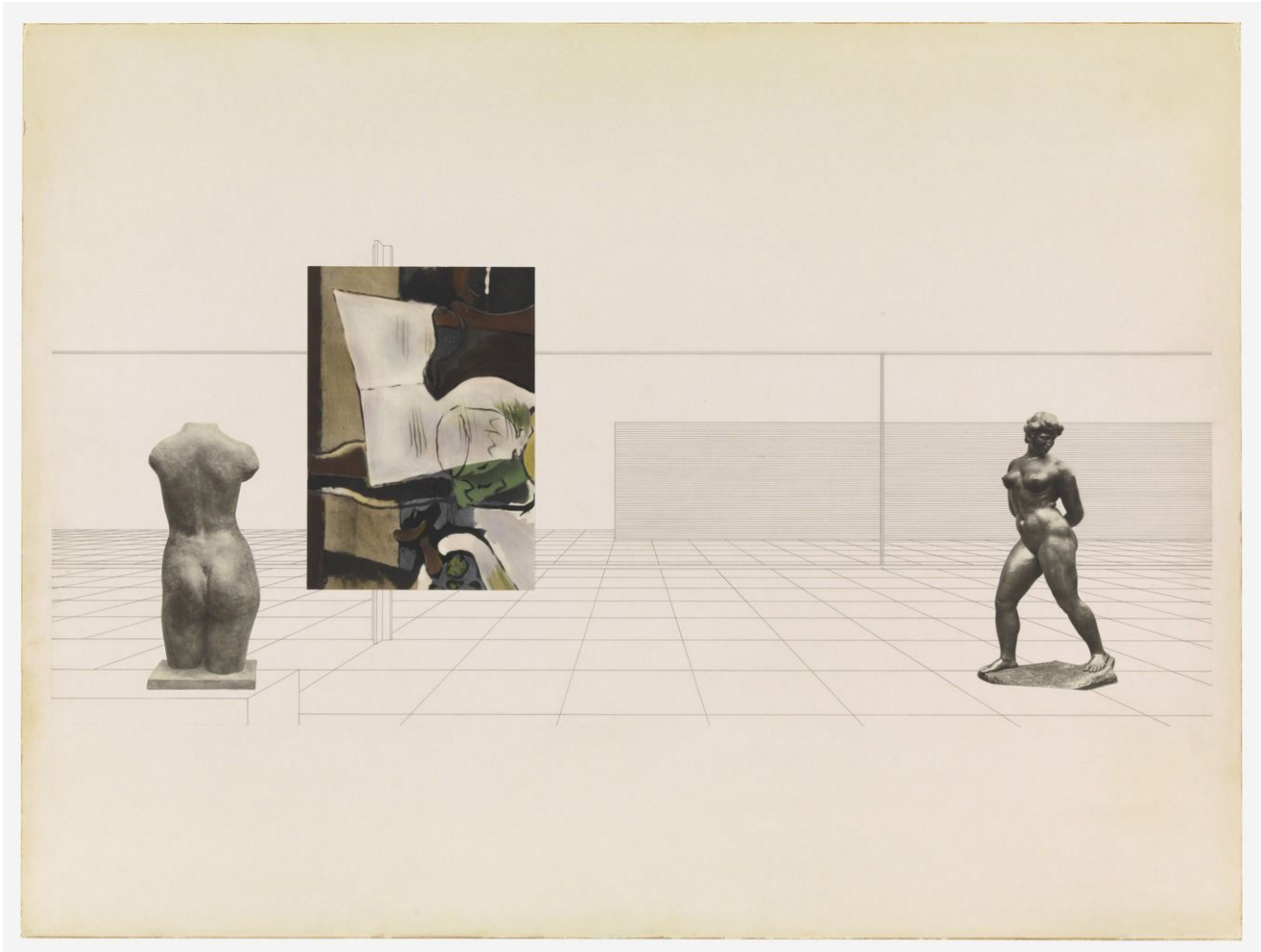




*Plan of Mies van der Rohe's Farnsworth House, 1945-51*

making it appear wider and flattening itself more against the ground relative to the sight of the viewer. Stretching the grid is an action Mies takes to enhance the perception of the perspective at the Farnsworth House, and it is used to give the smaller project an additional layer of depth in the eye of the visitor. The significance of the grid in the language of collage Mies has created is not underestimated nor universal. The devices Mies uses in the perspective have the ability to be transformed to meet the needs of each project he designs, and showcase the control he held when using them. The tenth installment of the investigation comes with the concession of the return of the columns within the space, as the previous work confirmed their necessity to the drawings. Intrigued by the relationship between the one-point perspective of collage eight and the two-point perspective of collage nine, both depicting the same space, collages ten and eleven were designed to take a closer look at this from the start. The issue of comparing collages eight and nine has been rectified in the creation of collages ten and eleven. Collage ten once again creates a space of exhibition. It uses many of the successes of collage eight in crafting the drawing, specifically pertaining to the thinness of structuring elements, depth of the space, and the strong presence of texture that

gave the space a tactile, experiential quality. The drawing is built with a symmetrical frame but is inhabited asymmetrically. A lone Rothko painting pulls to the foreground of the view, supported by the column. Its importance is underscored by the figure in the foreground whose attention is held by the painting. Even the figure in the mid-ground has turned back to look at the painting set in the space. Behind both of the figures is a transparent membrane in the form of an expansive curtain wall, a portion of which has been darkened. The space immediately past this membrane is occupied by the last figure, who lays gazing towards a toned wood veneer that suggests the presence of a highly textured wall turning a corner, a space created within. In the far background is the forest, created only by a pasted print with the lightest opacity. This hierarchy creates the visual sequence of the drawing as the eye slowly moves from the foreground, through the spaces, and out to the background. This sequencing lends a great amount of depth to the drawing, pulling apart the station point and the vanishing point to allow for the existence of spaces in between.



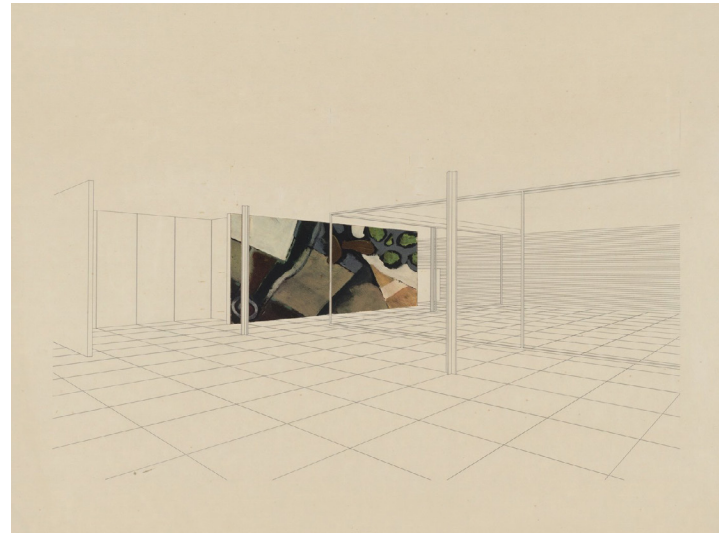
*Mies van der Rohe's Museum for a Small City, 1941-43*

## Collage 11

Too many variables from one collage to the next was the barrier in comparing drawings eight and nine, which has been rectified in the creations of collages ten and eleven. In this final drawing of the investigation, the pasted textures from the space in collage ten are carried over to eleven exactly, eliminating a variable between the two. The designed space is thought of as the same space in the previous drawing, the same scale figures are used and they occupy the space in the same manner they did previously. The difference between the two is the structure of the drawing. Collage ten is structured by a one-point perspective, collage eleven by a two-point. In the two-point perspective, the spaces appear even deeper than they did before. This depth is revealed by the grid on the floor and the dramatic change in size between the different scale figures. The visual sequencing of the spaces is still present in this drawing, but with the introduction of the second vanishing point the spaces now occupy another dimension, so the spatial organization and relationships are subject to new complexities. The sequence through the drawing is no longer a linear one spanning solely from the station point to the vanishing point, but is now a

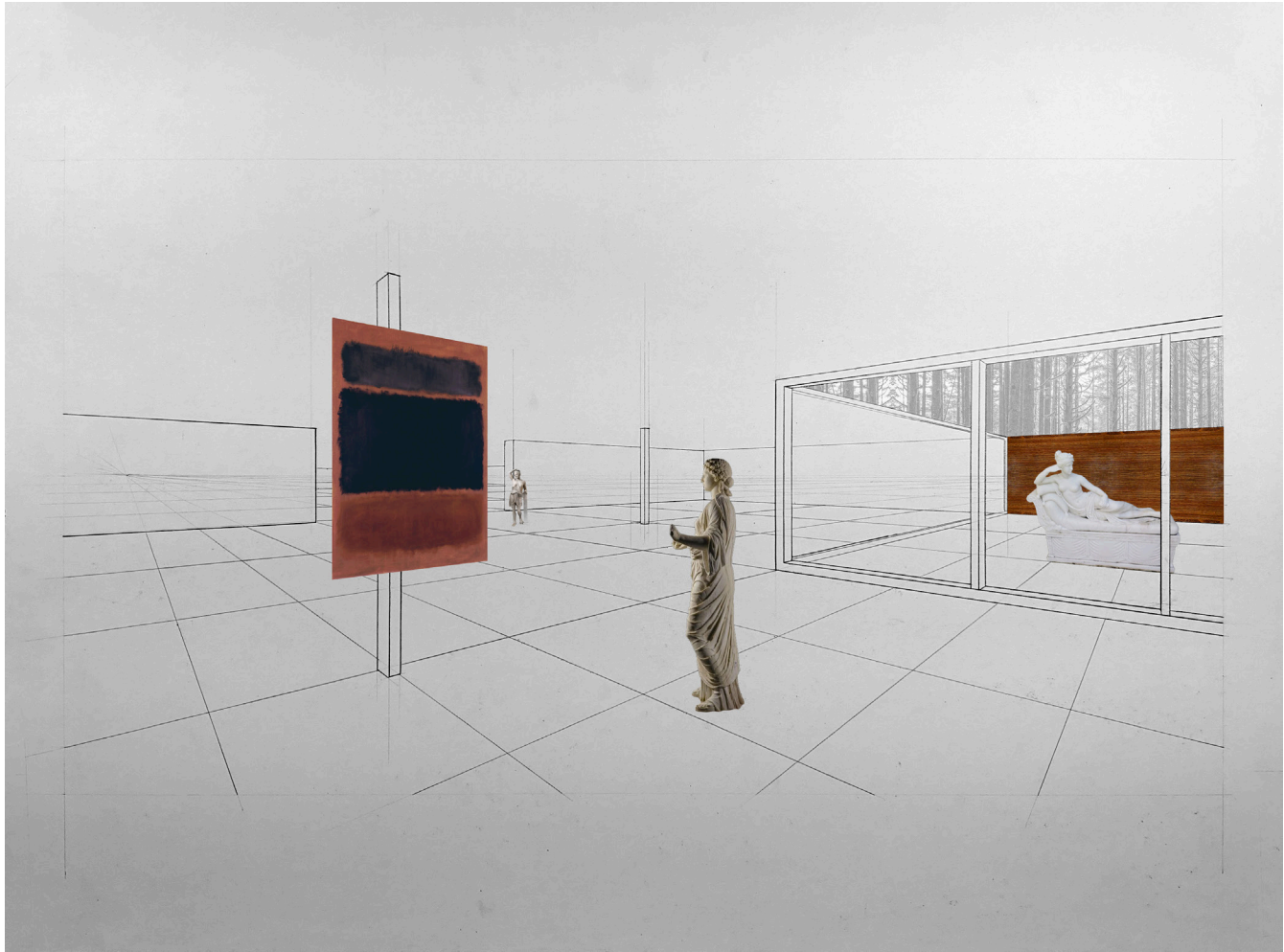
more complex and intertwining family of branches as more opportunities to move through the space are revealed. The effect of the cap that creates the roof plane cutting away at the sky in the corner of the perspective is not unlike what Cadwell describes further into *"Flooded at the Farnsworth House"*.

*"It is odd: as you climb to the porch and lose sight of the sky, you descent deeper into a thick field of vegetation rather than rise above it." (Ibid)*

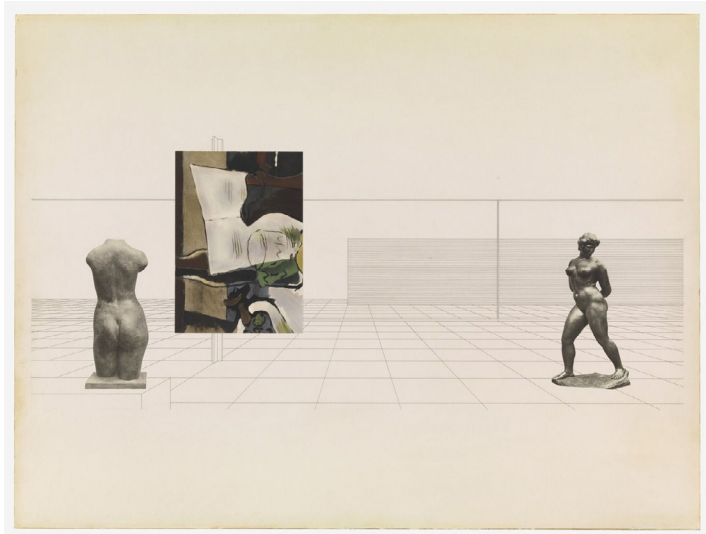


*Mies van der Rohe's House with Three Courts Project, after 1938*

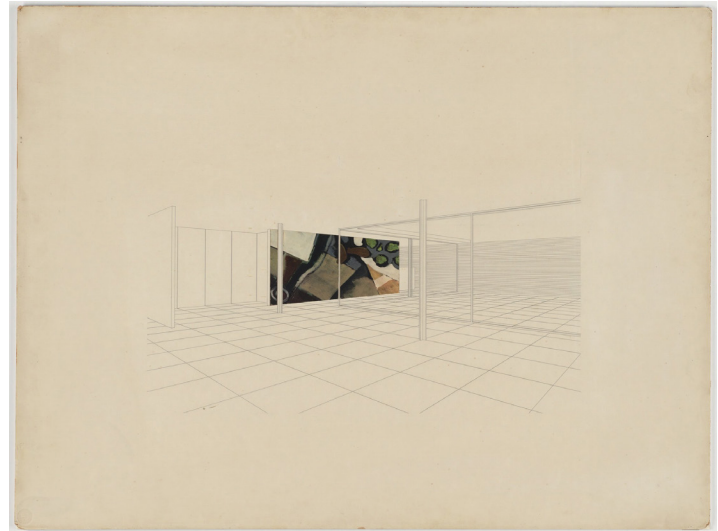




*Collage 11*



*Mies van der Rohe's Museum for a Small City, 1941-43*



*Mies van der Rohe's House with Three Courts Project, after 1938*

## One versus Two

Collages ten and eleven prospected a very interesting comparison between Mies' use of one-point and two-point perspectives. Mies' later works in collage almost exclusively relied on the one-point perspective. Out of nearly thirty collages collected for MoMA's exhibition of Mies' method, only three of the drawings used the two-point perspective. Even his earlier works of photomontage, which relied on the use of photography as a foundation of the drawing, showed particular interest in the one-point perspective. This poses two potential questions: Why does Mies prefer the one-point perspective? This first possibility would suggest that Mies has reason to find the one-point perspective superior to its alternative, drawing I'm to use it most often. Alternatively, the other possibility would be to ask: Why does Mies specifically deviate from the one-point perspective in few, specific drawings? What is he gaining, or even losing, by doing this that causes him to do it so selectively? In working back and forth between the one-point and two-point perspectives when creating collages eight through eleven, and even for the entirety of the investigation, the two-point perspectives universally took longer to complete. There was more work

that needed to go into structuring the drawing, and there were more spatial implications to be considered as the perspective now saw much more surface area. The one-point perspectives were easier to structure with a grid that had only one vanishing point to reach for, and it was generally only a single surface of an object that would face the viewer at a time.

***Above all else, the one-point perspective was by far the most intuitive when it came to actively designing and making space while crafting the collage.***

This intuition is something that Mies van der Rohe would have gravitated towards, evidenced by his work as a professor at the Illinois Institute of Technology.

*"That was where, working in close cooperation with Mies, [Walter Peterhans] developed the program for 'visual training', which served 'to train the eye and sense of design and to foster aesthetic appreciation in the world of proportions, forms, colors, textures, and spaces.'... Peterhans explained this method as follows: 'We attach*

Mies' Photomontages

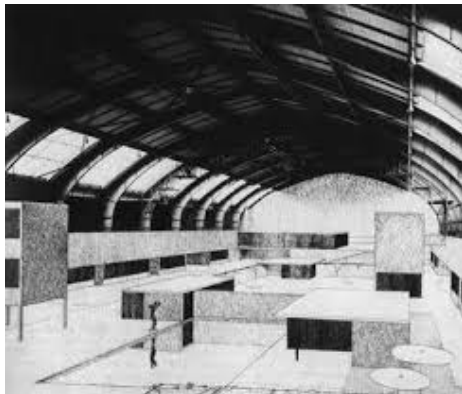
Bismark Monument  
Project, 1910



Bank and Office  
Building Project, 1928

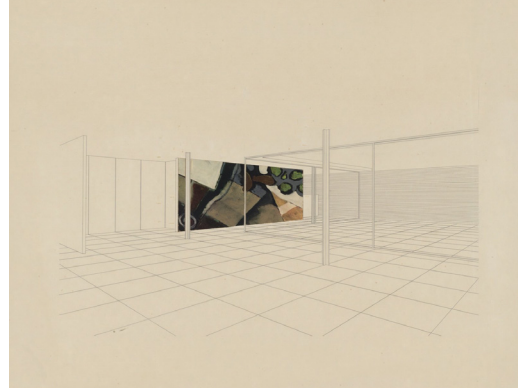


German Building  
Exhibition, 1931



Mies' Two-Point Perspectives

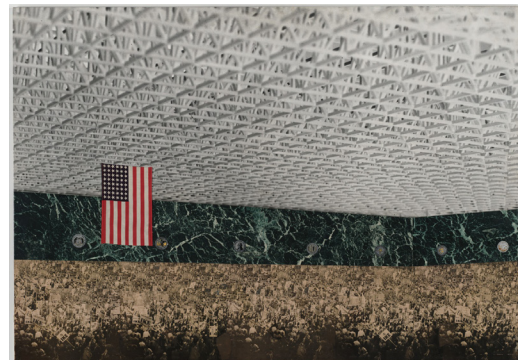
Court House  
Project, after 1938



Concert Hall, 1942



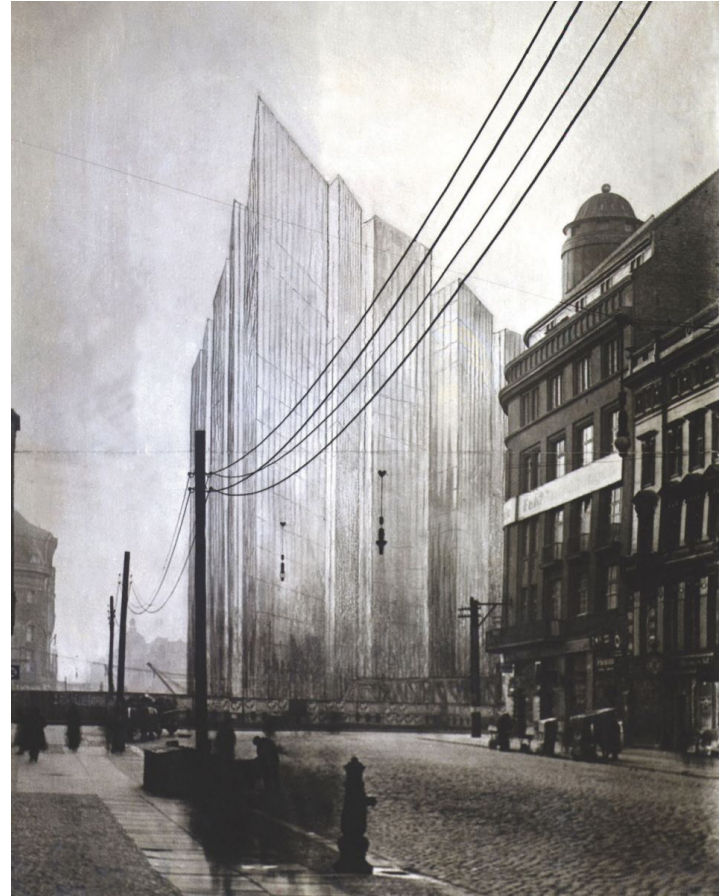
Convention Hall  
Project, 1954



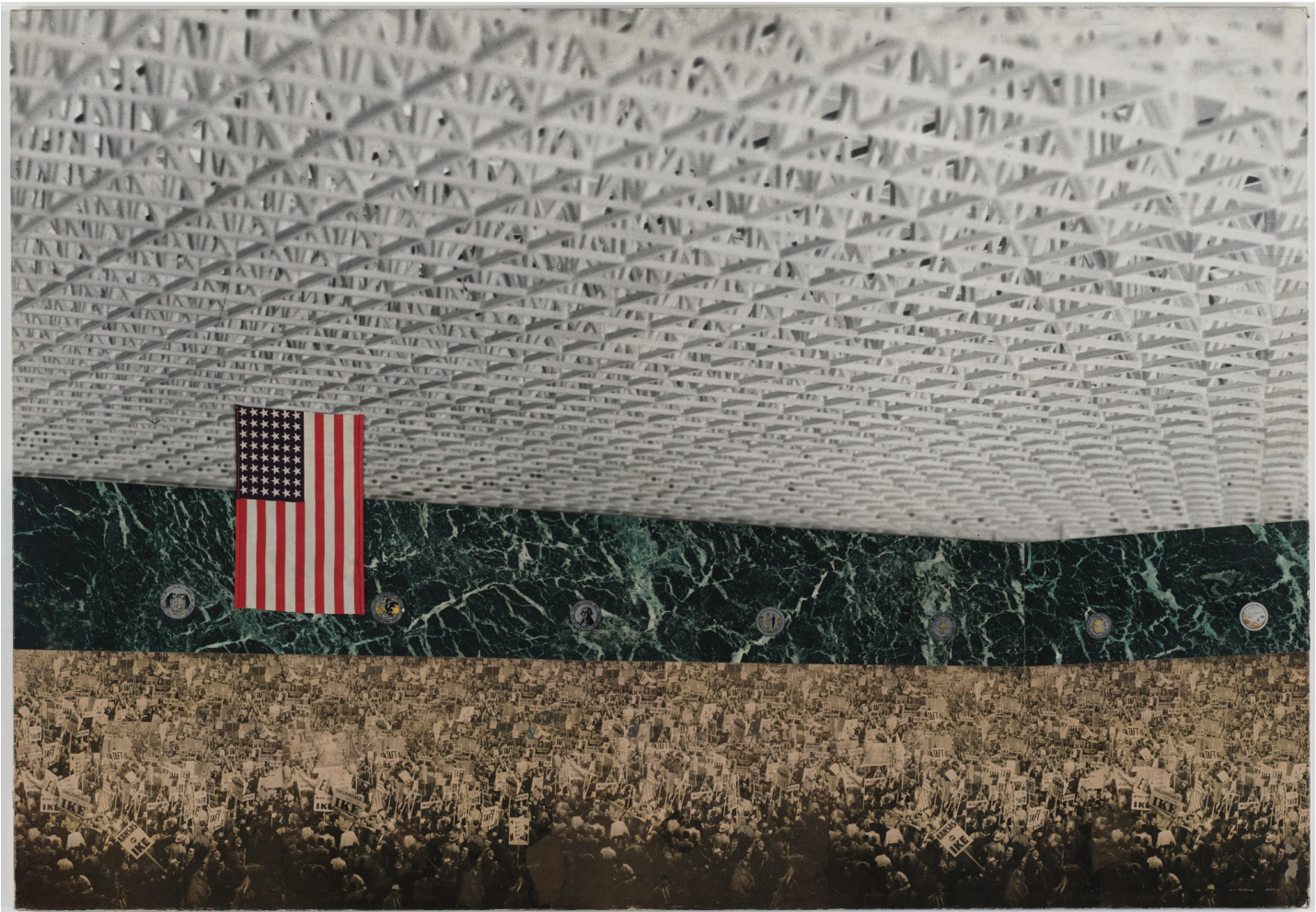


*incomparably more importance to visual training than freehand drawing or drawing from the nude...visual training has quickly shown itself to be a greatly superior method (\*compared to sketching) since it begins at a deeper level in training the eye for architectural conception and quality and for formal creation in the widest sense. The courthouse collages...aim to resolve a fundamental architectonic problem, namely how to design a standardized building” (Ibid)*

At IIT Mies was training his students to have a level of architectural intuition that enabled them to understand aesthetics, “forms, colors, textures, and spaces” well enough that they would have the capacity to make spaces that were worth *experiencing*. Making spaces with this level of consideration requires a great amount of control in the design, and a lack of intuition in the two-point perspective means it inherits this lack of control. Mies understood that he could have more control in the one-point perspective, and in order to show his spaces in their purest form possible Mies needed as much control over the drawing as he could get.



*Friedrichstrasse Skyscraper Project, 1922*



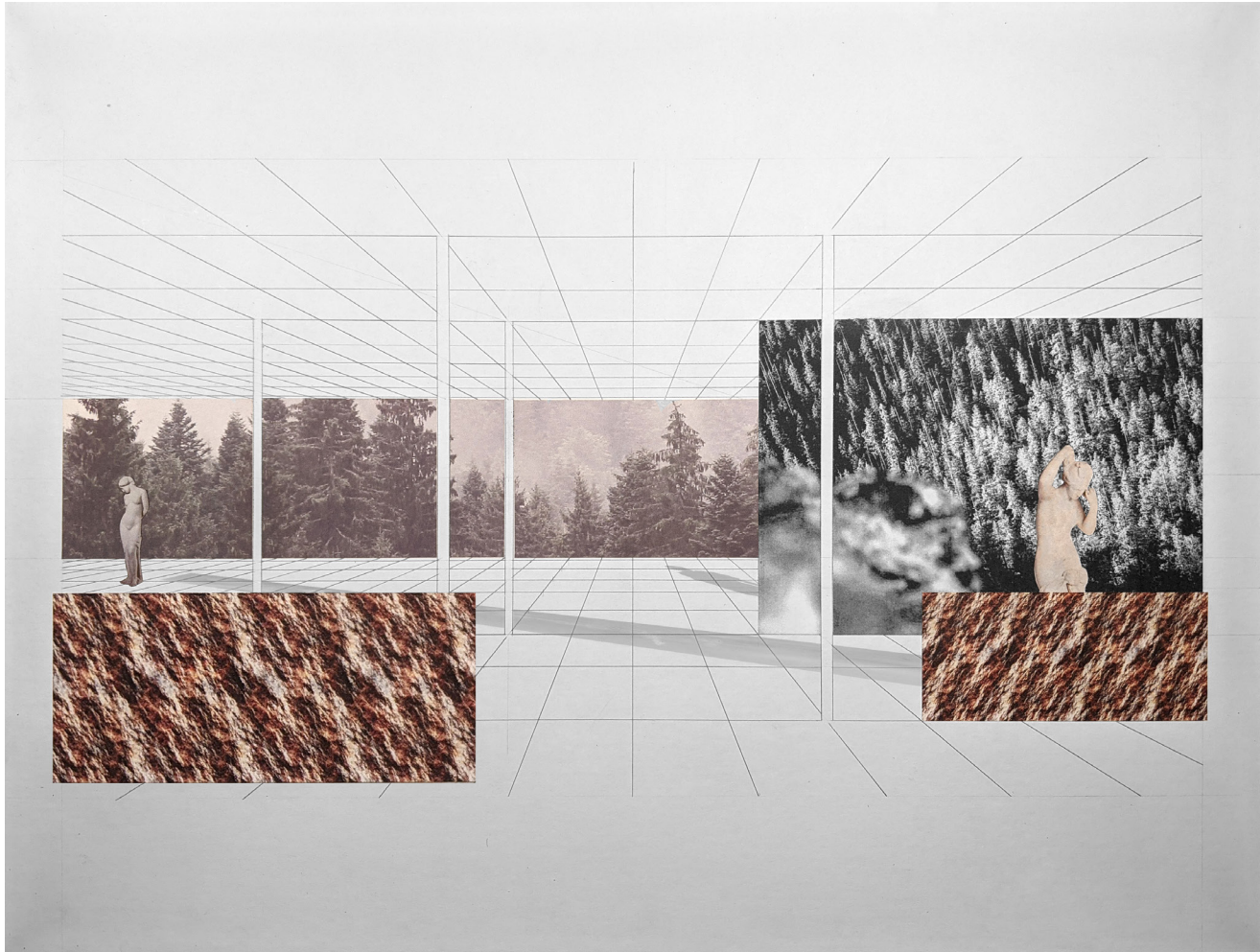
*Mies van der Rohe's Convention Hall Project, 1954*

# *T E X T U R E*

## *TACTILITY IN THE EXPERIENCE*

*“notice what attracts Mies’s attention: it is the fur not the form, a dense field of course hair bristling with brown and tan tones.” (Cadwell 1993)*







# Texture

This conclusion to the discovery-by-making component of the investigation points to one more way that collage appears to have affected the architecture and even the mindset of Mies van der Rohe. Texture is something that is present throughout the entirety of Mies' collection of photomontage and collage, and likewise is present in all of the artifacts made in the investigation. Mies saw collage as having an inherent benefit to his curriculum in his role as an educator at IIT because it allowed students to develop an architectural intuition about qualities of "proportions, forms, colors, textures, and spaces" in the experience of architecture. Collage inherently, through the pasted application of materials, has to deal with qualities of texture.

## ***Collage makes texture inevitable.***

Mies' fascination with texture is apparent throughout his work, particularly with his traditions of book-matching travertine and marble in his architecture and the transparency through his spaces to open up views out into the varieties of texture that the world holds outside. Even his insistence on using



*Book-Matching in Mies van der Rohe's Barcelona Pavilion, 1929  
(demolished 1930, rebuilt 1986)*



*Mies van der Rohe's Resor House, Looking North, 1938*



*Drawing of the Farnsworth House by Mies van der Rohe, 1945-51*

actual wood veneers in the drawings to represent wood is a testament to his preciseness in the presence of material in his most idealized version of the spaces. It is this preciseness that reminds me of a story I was told when visiting the Farnsworth House for the first time. During the construction of the weekend retreat, when the travertine tiles had finally arrived, Mies went to the site to look through them. Gathering some of the workers Mies reviewed each tile one by one and had them separated into three different piles: one for tiles that would go inside of the house, one for tiles that would go outside of the house, and one for tiles that would not be used. This event took all day to complete so once the organization of the tiles was finished Mies left the site, and soon after so did all of the workers. The next day, when they all returned to the site, the workers were despaired to realize that no one had thought to label which stack of travertine was which, and not a single one of them could remember. The differences from the tile in one pile to the tile in another, in their eyes, were indistinguishable. When Mies was called back to the site, instead of repeating the same process as had been done the day before, he stood out there with the workers and decided where each individual tile would be placed one by one. This experience would have been reminiscent of the process of collage-making, with

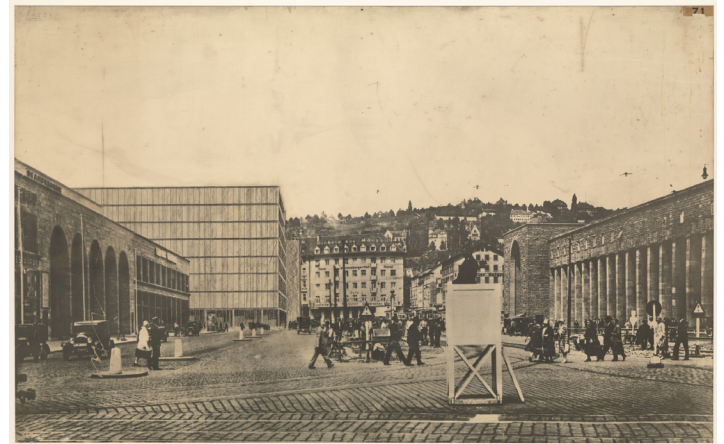
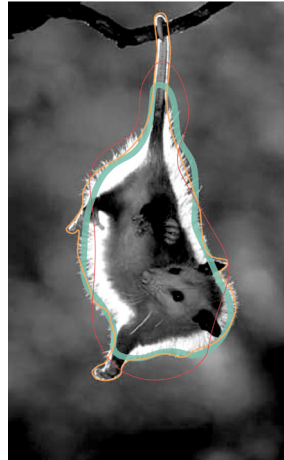
pieces of texture being pasted into the steel frame. *“What the steel frame **was** did not concern Mies, what it **did**, did. And what the frame did was approach the laconic splendor of the line-drawing.”* (Cadwell 1993). Earlier in the essay *“Flooded at the Farnsworth House”* is a memory Edward A. Duckett shares of a time he was with Mies out at the Farnsworth.

*“I was leading and Mies was right behind me. Right in front of me I saw a young possum. If you take a stick and put it under a young possum’s tail, it will curl its tail around the stick and you can hold it upside down. So I reached down, picked up a branch, stuck it under this little possum’s tail and caught it onto it and I turned around and showed it to Mies. Now, this animal is thought by many to be the world’s ugliest, but I remember Mies looked at it and said, “Isn’t nature wonderful!” So he studied that possum for sometime and commented how unusual it was. How beautiful its fur was, the texture of it, and so on...notice what attracts Mies’s attention: it is the fur not the form, a dense field of course hair bristling with brown and tan tones.”* (Ibid)

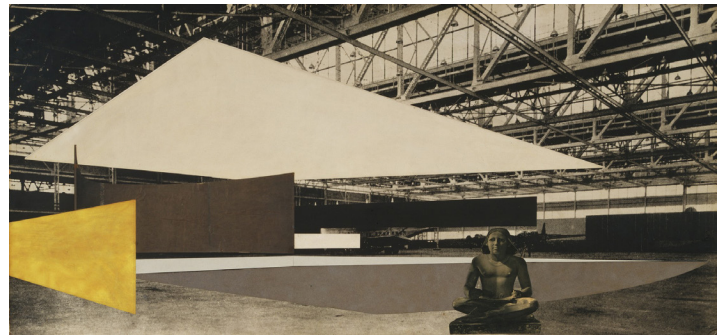




Mies, of all potential reactions to seeing a possum out in the forest, was fascinated above all else by the animal's fur. He used the time with it to study the texture of the possum. This story, and even Mies' work with the travertine at the Farnsworth House, comes decades after Mies has already begun his work with photomontage and collage. By this time in his career the method has had plenty of time to make its mark on Mies and to change the way he perceives architecture and the world around him. Similar to the presence of the grid and the slender columns in his architecture, and to the layering of space in the perspective, while it is possible that it was his desire for these components to have a presence in his architecture it is far more likely that collage as a method of making influenced Mies' perceptions of experience and space.

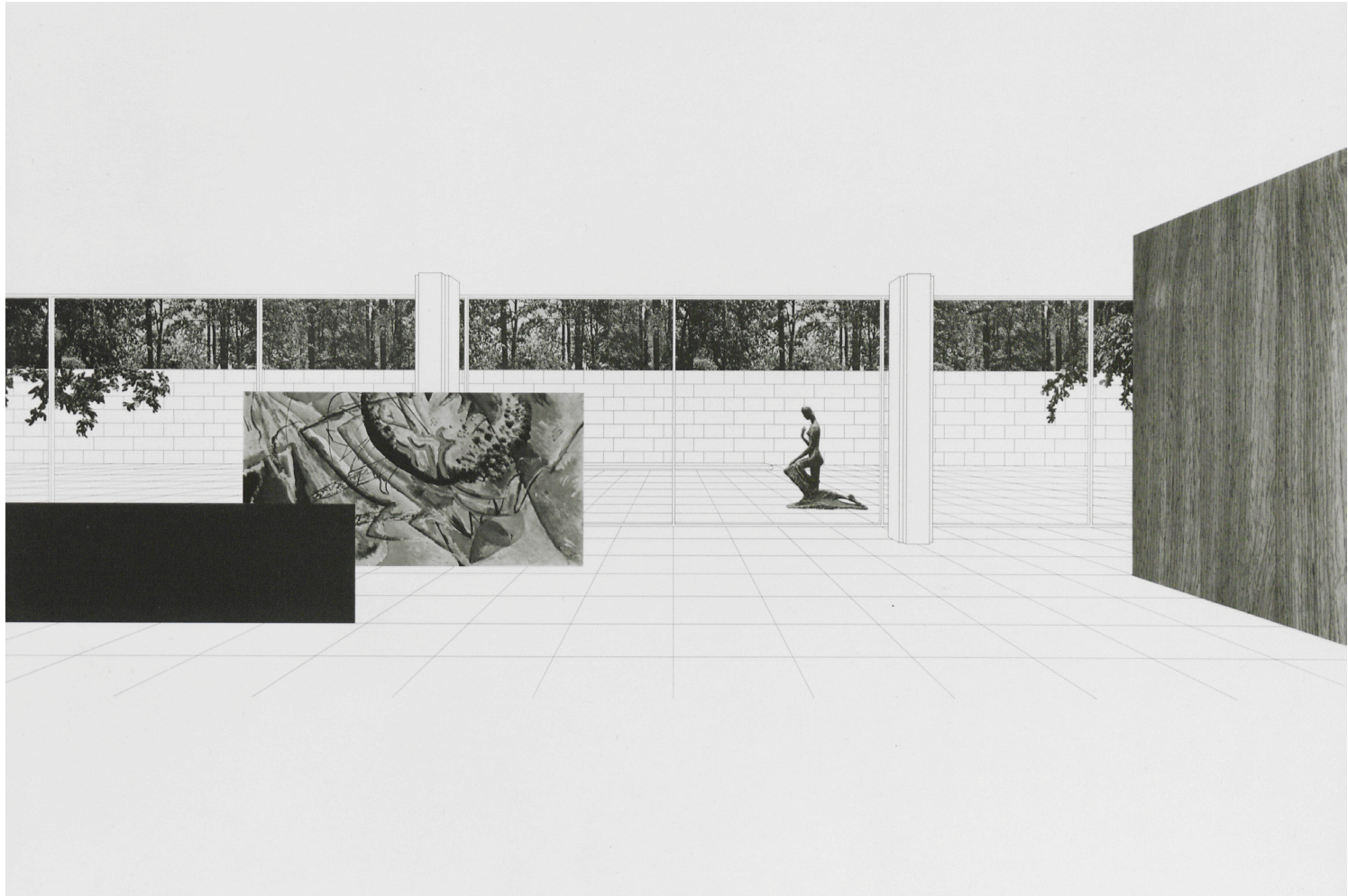


*Bank and Office Building Project, 1928*



*Mies van der Rohe's Concert Hall, 1942*

***It was collage that caused Mies to pay so close attention to the qualities of texture in the experience of his architecture.***



*Mies van der Rohe's Neue Nationalgalerie, 1962-68*

# *Collage's Place in Architecture*

This investigation into the collages of Mies van der Rohe set out to discover something new about how design happens.

## **How does collage directly affect the design of architecture?**

Mies van der Rohe, being one of the most well-documented architects to use this method, became the lens of the research. This narrowed lens allowed the investigation to focus on precedents more specifically, and the common language of one architect allowed the discoveries of each collage to carry on into and inform the next study. But the deep dive into one designer exclusively also revealed something very important in regards to the original question. The theory existed within a notion that collage affected architects *universally* in one way or another. That, while each designer would have their own specifics and individualities in their processes, there was a broader impact that collage had on all. But looking specifically into how Mies and his architecture were shaped by his collages, including the implementation of the grid and columns to measure depth in the perspective, the use of planes to

strategically create spaces in the perspective, and the role of the tactility of texture in the experience of the architecture, the impacting components of Mies' collages simply do not extend into the works of other architects fascinated by this method of design. If collage's impact on Mies and his architecture is assumed to be consistent across other architects, then it is in fact a highly individualized experience. Yes, collage did affect the creation of Mies' architecture, but it would not affect the architecture of another in the same way. "*How does collage directly affect the design of architecture?*" The question answered in this investigation is actually much more specific.

## **How did *Mies'* collages directly affect the design of *his* architecture?**

The investigation has discovered that it is a question to be asked not of architects as a whole, but of architects as individuals. To recognize the differences in collage one has to look no further than the works of the Smithsons and of firm fala atelier. Alison and Peter Smithson, who were using montage and collage in their design process around the same time as Mies, were seemingly just as fond of the use of the one-point perspective, but their construction of the collage does not use





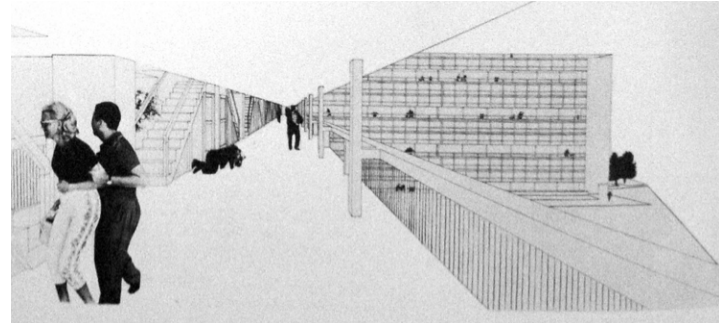
*fala atelier's Graça Apartment (Collage), 2016*



*fala atelier's Graça Apartment, 2016*



the grid or the slender column as a physical manifestation of it. Without using these their collages thereby cannot use them as a means of establishing foreground and background, creating depth in the drawing to give them room to make architecture. Yet their drawings are not absent of depth. They have a clear foreground and background, so they must be achieving these by structuring the collage in a different way. Mies' "less is more" approach to the drawings is contrasted by the drawings created by fala atelier, a contemporary firm that, like Mies, has a library of works that are both designed with collage and physically constructed into a final project. They parallel Mies' belief that the perspective is the best means of getting at the experience of the architecture. Yet their collages are much more photo-realistic than those of Mies. Side-by-side comparisons of the collages and the constructed space are almost a one-to-one comparison. These works by fala atelier become much more about the inhabitation of the spaces within the architecture. But interestingly fala says, like Mies, that the collages are works that simultaneously have an autonomy from the building. In an interview with FIFTY7°TEN Podcast, Ahmed Belkhodja says that any "style" in the collages is incidental, not intentional. The outcome of the drawings is a product of the way they are working. A product of the method.



*Alison and Peter Smithsons' Golden Lane Project  
'Street in the Air', 1952*



*fala atelier's House in Rua do Paraíso, 2017*



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