

A black and white photograph of a man in profile, facing right. He is wearing a dark suit jacket over a white shirt and a dark tie. He is holding a lit cigarette in his right hand, which is raised towards his face. A wristwatch is visible on his left wrist. The background is dark and indistinct. The lighting is dramatic, highlighting the contours of his face and hand.

lighting is architecture

Richard Kelly and the Imaging of Corporate Modernism

PROGRESSIVE ARCHITECTURE

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by Henry Wright, Guest Editor*

Lighting has always been an integral part of architecture. In our own time, while daylighting techniques have greatly advanced, emphasis has shifted from window illumination to electric lighting. The most significant recent effect of the electric lamp on architecture has been the tremendous freedom it has given to planning. In the space of a generation, improvements in lighting, along with air conditioning, have greatly reduced—if not entirely eliminated—the distinction between “inside” and “outside” space.

This major shift is nowhere more dramatically evident than in the large architectural-drafting room, where it is now common to arrange blocks of drawing tables in rows of five or more in both directions. In such rooms, windows become framed pictures of the outdoor world rather than significant sources of light. The electric lighting may, and often does, leave something to be desired—the “task,” after all, is an exacting one. But here, as elsewhere, the efficiency and convenience of furniture—and “people”—arrangement it permits have proved irresistible. Similarly, large business organizations need no longer evaluate office space in terms of so many windows—one per employe—and office planning has been freed of the necessity of arranging bands of minimal cubicles around second-class interior space.

Electric lighting has played a major part in “opening up” such plans—giving more people more interesting views of the outside through larger and larger windows. As the window has ceased to be a necessity from an illumination standpoint, it has paradoxically become more important lightingwise: as an important part of the “brightness pattern,” larger and larger windows necessitate better and better electric lighting.

This is only one of the ways in which modern lighting techniques have revolutionized interior and even exterior design. Another, and highly significant change, is that the designer has been given complete control of the “mood” of interior space—a choice of atmospheres ranging from the antiseptic quality of uniform high-level illumination to the utmost in “glamour.” At the same time, lighting equipment—always an attention-commanding adjunct of design—has become more integrally related to structure as a potent pattern-producing design element within buildings, which at night may completely transform their exterior aspect as well.

Finally, the control of lighting which modern equipment affords makes it possible (if not mandatory) to use light to

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emphasize or understate textures, to bring out the sheen of polished materials and surfaces, to highlight interesting shapes, and even to alter the apparent proportions of entire rooms. In a word, more than ever, lighting is architecture. Far from being an accessory element to be added to buildings at a certain stage in their construction, it is a central design determinant which must be planned as part of the structural envelope and should influence decisively the choice of finishing materials.

Does this mean that the architect must become fully familiar with available luminaires, wattages, lamp spacing, and the like? In view of the increasing complexity of his other involvements, this is manifestly impossible. Although his responsibility for the lighting effect, the appearance of the light sources, and their relationship with finishing materials is the central one, he must rely on the lighting designer, illuminating engineer, and electrical engineer for projects of any magnitude.

Here, as in so many other areas of today's building, the solution lies in the right procedure. Like other consultants, lighting specialists yearn to be called in at the formative stages of a design, when they can make their greatest contribution. But even this, when it happens, does not relieve the architect of the responsibility for determining the desirable “lighting mood” for the various spaces and functions under consideration. He should also have an idea of the intensity of illumination appropriate to various parts of the building, taking into account indoor-outdoor relationships, fenestration, orientation, and so on. *And he must give these considerations priority over the appearance of the lighting equipment, as such.*

The contributors to this issue, while differing on details and even in their philosophical approach to lighting problems, are unanimous in urging the choice of an appropriate lighting “mood” as the jumping-off point for the solution of all lighting problems. Lighting Consultant Richard Kelly has suggested three broad terms for types of illumination which elucidate this point. The first general type he calls “ambient luminescence.” Ambient luminescence, in the pure sense, is achieved only under conditions like those on the beach, on an overcast day, where completely diffused light is coming from all directions, but its effect is akin to the kind of flat, over-all illumination provided by indirect lighting and large, luminous ceilings, as in 1. This kind of lighting is usually regarded as functionally necessary for general office spaces and other areas, such as schoolrooms, where close visual work may be carried on at almost any point. As Architect Kenneth Welch points out, in his discussion in this issue, this type of illumination calls for the use of strong color contrasts to relieve visual monotony, and may well be enhanced with direct lighting of greater intensity to concentrate interest. Attention-commanding light, when dominant, Kelly calls “focal glow.” 2, citing its ability to make small objects visually important, as in shops and display work. His third broad category is “play of brilliants,” 3—the lighting art so well understood in the days of the candelabra, where a multiplicity of small but intense light sources impart sparkling accents to every reflective object and surface within range. What Kelly means by these terms is further illustrated in the presentation of his own apartment in this issue; the same general theme is developed and copiously illustrated in an article by C. M. Cutler of General Electric Company. A somewhat different approach—by way of light “forms”—is presented by Lighting Consultant Abe H. Feder, and a variety of related design points are made by pictures on the pages immediately following.



1



2



3

from his society, well explained by the above weather and creative characteristics, so different from the inapplicable but nevertheless insistent standards taken from the past and used for the present, apparently reached its peak in 1900. The gap now should be lessening, and probably is. In the United States¹⁰ the art has been neither as extreme nor as rejected as in Europe. It is time that our country should come of age culturally. With our origin as a nation in the cold dry 1780, and our major inheritance from the cold dry period of 1830 to 1870, it is probable that our own great American art, possibly even to be recognized, will occur comparatively soon. Actually, between the cold wet confusion of today, and the cold dry peak of 1965, there will probably be a temporary phase of warm wet hope.

LIGHTING AS AN INTEGRAL PART OF ARCHITECTURE*

Richard Kelly

A FEELING for light and lighting starts with visual imagination, just as a painter's talent does. Think of the creation of a watercolor rendering—First, major highlights are imagined—then, graded washes of different luminosity are added and—then, the detail of minor lightplay makes the idea clear and entertains the eye.

In front of the mind's eye are three elements in the perceptions of visual design—three elemental kinds of light effect which can be related to the art of painting for easier visualization: (1) Focal glow or highlight. (2) Ambient luminescence or graded washes. (3) Play of brilliants or sharp detail. These three elements are also the order of imaginative planning.

¹⁰ Again the honest historian can only compare the recent Europeanization of our art with the French Impressionism of Twachtman. Foreign to our soil it was at first greatly admired as "modern," but the many museums which squandered their money on his art are now generally taking his pictures off their walls. Inness was the American representative of this style, although he correctly insisted that he was not an Impressionist; Twachtman was only an imitator. Who is the American Picasso, not following in his footsteps but paralleling his development?

* Condensed from a lecture delivered at a joint meeting of The American Institute of Architects, the Society of Industrial Designers, and the Society of Illuminating Engineers, in Cleveland, April 23, 1952.

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Henry Wright, “Lighting Is Architecture,” *Progressive Architecture* (Sept. 1958).



Philip Johnson
Glass House, New Canaan, Conn., 1949
night and day views



Ludwig Mies van der Rohe
860-880 Lake Shore Drive Apartments, Chicago, 1948-1951
night view of glowing core and lobby



Ludwig Mies van der Rohe
German Pavilion, Barcelona World's Fair, Barcelona, 1929



Ludwig Mies van der Rohe
860-880 Lake Shore Drive Apartments, Chicago, 1948-1951
illuminated core and night view of towers from city










Ludwig Mies van der Rohe and Philip Johnson
The Seagram Building, New York, 1954-1957



This advertisement appears in the special SEAGRAM section of the New York Times on Sunday, April 7, 1957

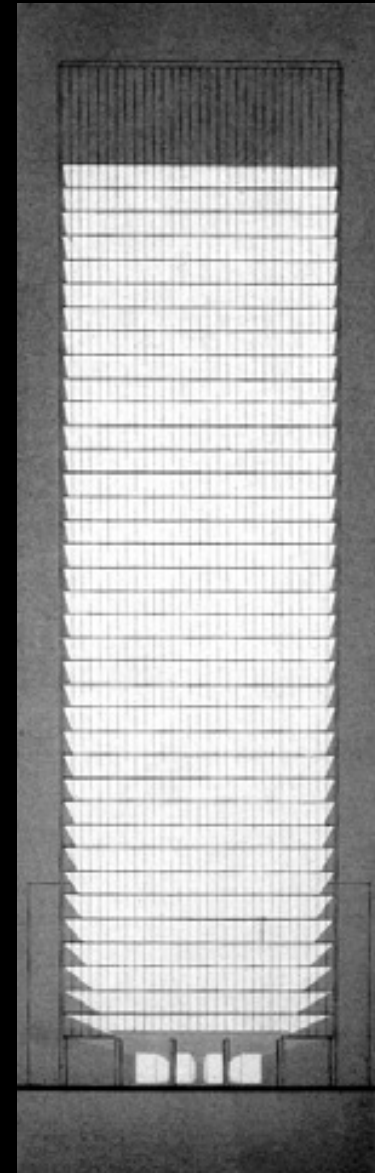
<p>architects: MIES VAN DER ROHE PHILIP JOHNSON</p>				
		<p>electrical contractor: HARRY F. FISCHBACH of FISCHBACH AND MOORE, INCORPORATED.</p>		
	<p>associate architect: ELI JACQUES KAHN of KAHN AND JACOBS</p>		<p>lighting consultant: RICHARD KELLY electrical engineer: CLIPTON E. SMITH of JAROS, BAUM AND HOLLES Lightolier designer: NOEL FLORENCE</p>	
			<p>general contractors: GEORGE A. FULLER CO. rental agents: CUSHMAN & WAKEFIELD, INC., L'HUTILLIER SHEAF, president</p>	

THEY DREAMED OF A TOWER OF LIGHT

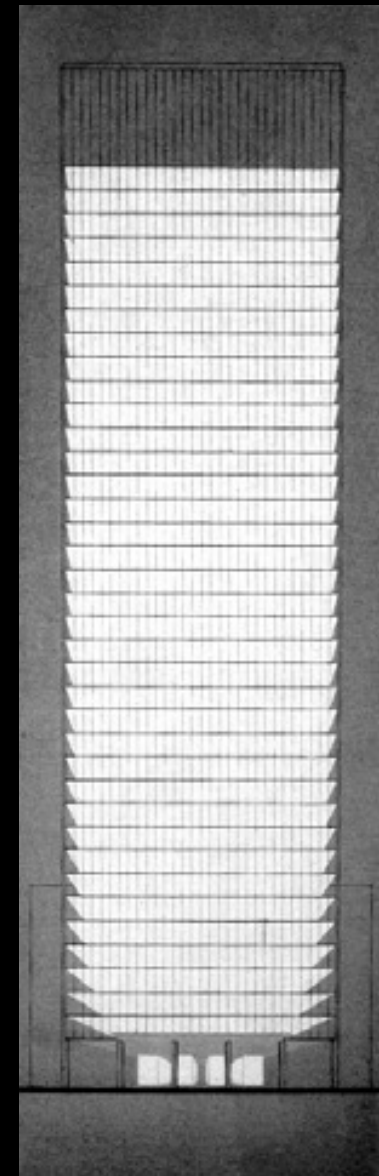
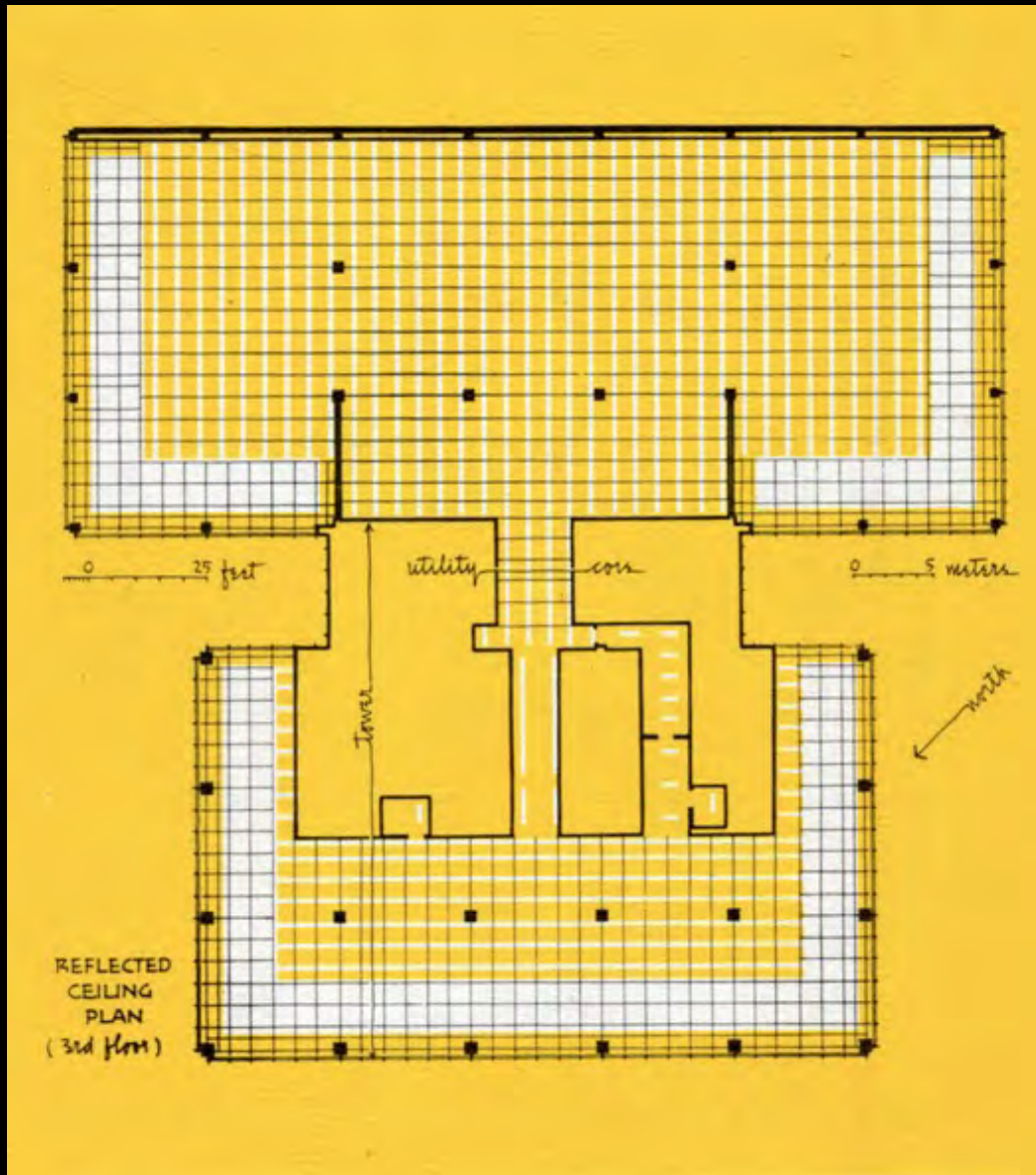
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The House of Seagram is made of dream stuff: air and light as well as bronze and concrete. And it is light which makes the most spectacular contribution... by day for work, by night for drama. This dream became a reality when Lightolier's engineers joined the Seagram design team. We devised a luminous ceiling where the space above the diffusers is not open, but enclosed in modular cells. This produces completely shadowless light and virtually eliminates sound transmission, via the ceiling, from one office to another. It is also easy to maintain, provides ample space for services like air conditioning and wiring. We can make a creative contribution to your illuminating problem too, whether your project is large or small. For consultation without obligation, call or write our Architectural Contract Division, 9 E. 36 St., New York, LE 2-2900.

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“Tower of Light” promotional materials
above: Lightolier brochure; right: diagram from *Architectural Forum*



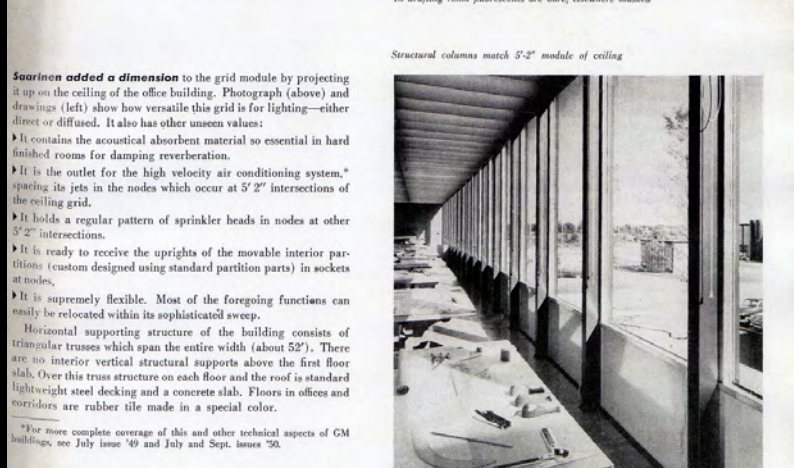
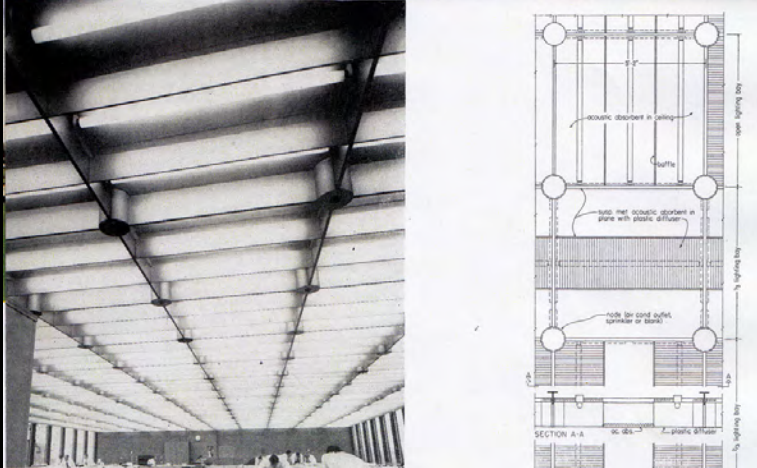
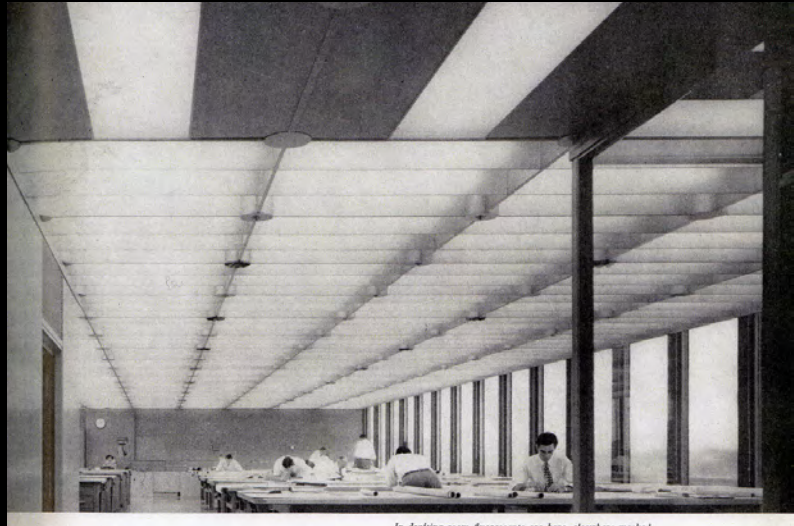
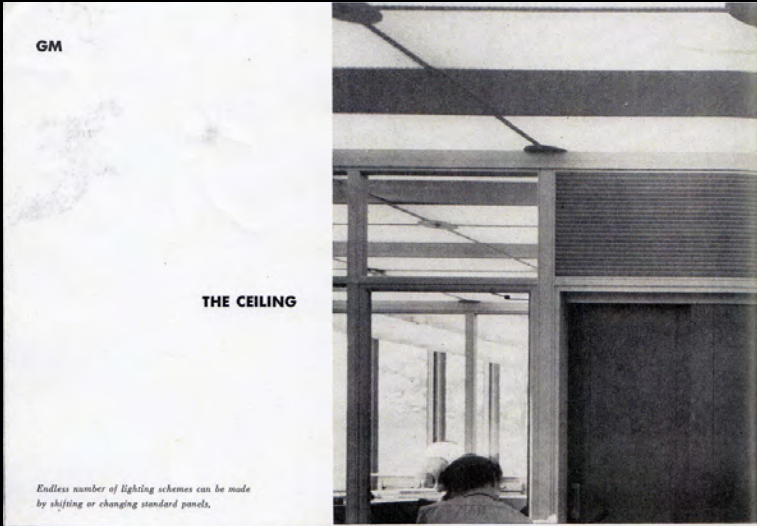
Luminous ceiling plan for Seagram Building tower
from "Definition of Structure," *Progressive Architecture*, 1958



Executive corner office with luminous ceiling
Seagram Building



Ludwig Mies van der Rohe and Philip Johnson
The Seagram Building, New York, 1954-1957



General Motors Technical Center, *Architectural Forum* v.95 (Nov. 1951): 111-123.

The advance platoon of the automobile industry, its research engineers, could hardly be housed in a more suitable environment than this strong intent design. It is a place for clear thinking. But in addition to the refined design ... and the high civilization of the physical environment ... Saarinen and his associates have helped the leading producer in the automotive field build an exciting signpost, a plea to all industry, and a proper symbol for research toward tomorrow.

General Motors Technical Center, *Architectural Forum* v.95 (Nov. 1951): 111-123.



Eero Saarinen
General Motors Technical Center, Warren, MI., 1956
above: lobby; right: Styling Dome



IBM World Headquarters
above: interior showroom; ca. 1949; right: renovated Data Processing Center, Madison Avenue and 57th Street, New York, ca. 1954



Eliot Noyes, IBM Data Processing Center
above: Data Processing Room; right: small business machines display, ca. 1954



The Data Processing Center generated enormous excitement . . . the 702 was actually a working machine. Customers who wanted to rent computer time would simply bring their data in, and we kept the computer running around the clock. If you went by on Madison Avenue in the middle of the night you would see it behind the big plate-glass windows, tended by well-dressed technicians in its brightly lit room.

Thomas Watson Jr. as Gordon Bruce, *Eliot Noyes: a pioneer of design and architecture in the age of American Modernism* (New York; London: Phaidon, 2006), 146.



Eliot Noyes, IBM 'White Room'
IBM Design Center, Poughkeepsie, N.Y.

top: IBM 360 computer, ca. 1964

bottom: IBM DSC 370 Model 145 mainframe, ca. 1970



top: 'White Room' IBM Design Center,
Poughkeepsie, ca. 1964.



bottom: still from *2001: A Space Odyssey*,
Directed by Stanley Kubrick, 1968



Eliot Noyes
Xerox showroom, New York, ca. 1963



above: Interior office looking towards executive offices, Seagram Building; right: Seagram's 'Tower of Light'

