

LOUIS KAHN AND THE ART OF LIGHT

The Kimbell Art Museum has been admired, studied and emulated by architects and museum specialists ever since it opened 30 years ago. Since then, many museums have been built, but the Kimbell remains unsurpassed in terms of the total experience it offers the museum visitor. What is it about the Kimbell that makes it so special and so different from other museums? To a large extent, it is the unique manner in which Louis Kahn introduced natural light within the Museum.

At the outset of the project, the Kimbell's first director, Richard Brow, required that the natural light should be an integral part of the museum program. He was especially concerned that the visitor should be "in touch with the ever-changing world outside the museum." He did not want traditional skylights or clerestory windows in the galleries because of problems typically associated with such solutions. Early on in the project, however, Kahn won Brown over with an unprecedented way of introducing natural light into the galleries.

At the Kimbell, natural light enters the space through a 2½-foot slit at the apex of Kahn's distinctive vaulted ceilings. The light strikes a suspended convex, perforated-aluminum "natural light fixture", in the words of Kahn, that prevents direct light from entering the space. As the light reflects onto the cool, curved concrete, it retains what Kahn called the "silver" quality of Texas light, which he so admired. But then, as the light bounces off the travertine walls and oak floor, it warms up and seamlessly blends with the warm light from the incandescent lamps suspended along the outer edge of the natural light fixtures. Through this unique design, Kahn avoided many of the pitfalls inherent in a museum gallery where a primary

source of illumination is natural light.

Is the light at the Kimbell perfect? For the most part, the Museum succeeds very well. Standing in the galleries, the visitor is always aware that the natural light gives, as Kahn describes it, "a touch of silver to the room without touching the objects directly, yet [with] the comforting feeling of knowing the time of day." In the center of the gallery where the visitor stands, there is a strong awareness of the changing quality of outdoor light. However, is this constantly varying condition of natural light optimum for viewing works of art?

Many museum specialists assume that natural light is the best light to view works of art and cite the Kimbell as an example of why it is important to bring natural light into exhibition galleries, without realizing how natural light at times detracts from the viewing experience. What is missed is the fact that many of the Kimbell's paintings look best when natural light is contributing only a proportion of the overall illumination on the work of art.

There are large portions of time, especially on a cloudy day, when the primary source of light on the paintings comes from incandescent lamps. And yet, there is no awareness of a loss of quality to the light that falls on the art. Actually, it is quite the opposite. On a cloudy day, many of the paintings appear more colorful and vivid than on a bright, clear day, even though the overall intensity is less. On overcast days, not only does the public benefit from the improved appearance of the works of art and from the heightened sense of architecture brought about by the changing conditions of light within the gallery, but the works of art benefit as well, since they are subjected to a lower level of light.

Kimbell Art Museum,
view of southeast gallery,
looking north, with
paintings installed,
spring 2002.
Louis I. Kahn, architect



So was Kahn wrong in his choice of illumination? Could he have chosen a more appropriate lighting scheme for viewing art? Not at all, given the state of knowledge about illumination and the state of technology over 30 years ago. At that time, there were very limited lighting options: incandescent lamps, fluorescent lamps, and natural light.

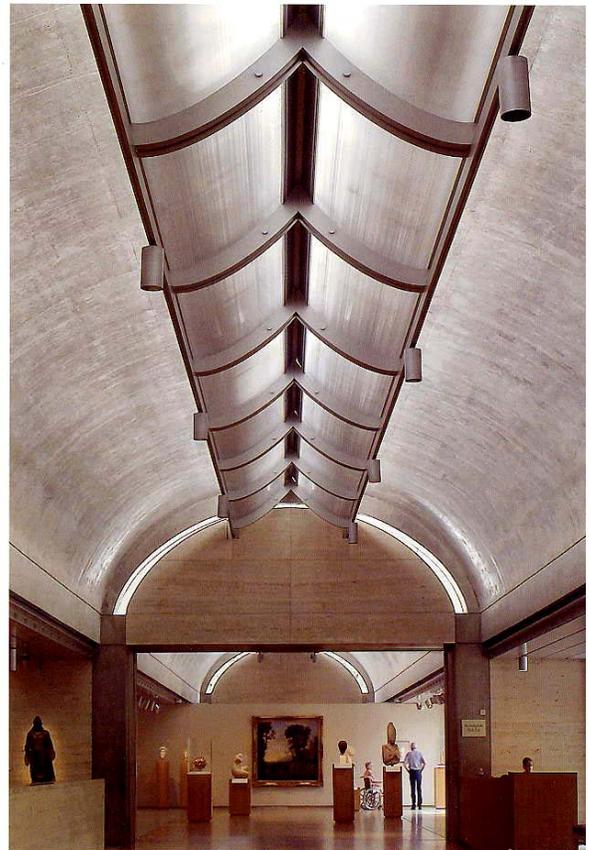
Although incandescent lamps were most common for interior museum lighting, since they could be directed and focused, these produced a very yellow light. Fluorescent lamps gave an unpleasant, diffuse type of light. Compared to these sources, daylight, with its strong sense of directionality, rich, colorful spectrum, and constantly varying quality was clearly the preferred source. Given the available options, Kahn chose exceedingly well in the manner that he introduced natural light into the Museum and blended it with incandescent illumination.

Only now are we beginning to understand how and why certain conditions of illumination are preferred over others when looking at works of art. In part, the awareness of both “good” and “bad” moments of illumination, both at the Kimbell and other museums, has led us to understand that color temperature (how cool or warm a light source appears to be) is a key element in creating an optimum lighting situation. We have observed that, on those cloudy days when many of the paintings look most colorful and full of depth, the color temperature of the mixture of natural and artificial light falls within a fairly narrow range. This range, within 3,500 to 4,000 degrees Kelvin, is often achieved under normal viewing conditions at the Kimbell through a range of artificial and natural light. The range has been unavailable until recently with existing artificial light sources, and is considerably lower than the color temperature of natural light.

Through systematic studies of such observations, in conjunction with specialists in color vision psychology at the City University of New York, I have determined that there is an optimum color temperature for viewing works of art, and, by extension, for viewing the world around

us. Ricky Honacker, lighting specialist at the Kimbell, has concurred with these findings, based on years of practical experience in illuminating works of art at the Museum. It is an exciting moment, because it helps us appreciate how to work with and improve our interior visual environment, a task very much in line with Kahn’s own interest and concerns. Today, 30 years after the Kimbell opened, our responsibility is to apply this new knowledge and enhance an optimum environment for viewing art. The challenge is to achieve this without compromise to the conservation needs of the collection, and with respect for the changing quality of light within Louis Kahn’s architectural masterpiece.

Steven Weintraub, conservation / environmental consultant, New York



Kimbell Art Museum, view of light diffuser, or the architect's "natural lighting fixture," west lobby, spring 2002. Louis I. Kahn, architect