

POOLS OF LIGHT

POOLS OF LIGHT* -- BOTH NATURAL AND ELECTRIC -- CREATE AND ENHANCE SPACES, DEFINE AND REINFORCE PATHS, AND PROVIDE HIGHLIGHTING FOR ACTIVITIES AND DISPLAYS.

ISSUES

Loss of physical orientation, difficulty in finding one's way, monotonous paths, and information overload lead to museum fatigue.

Lighting can be used to enhance circulation, highlight display areas, and provide visual relief.

The value of lighting in the traditional, permanent display/permanent path museum has been well-documented. The exploitation of lighting as a design tool is even more valuable in planning the spaces for changing displays and on adaptive reuse of buildings. Children's museums in particular have a history of beginning in recycled buildings and leftover space. In addition, their special interactive programming requires rotating exhibits, special circulation paths that may be mysterious, unexpected, thrilling. Within a designated space, different exhibits will have different spatial requirements, perhaps different circulation patterns. The flexibility of the space can be increased by modifying the spatial experience through changes in the lighting.

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Pools of Dark: Low light and the lack of daylight was deemed necessary to protect valuable objects in traditional museums. In newer museums demonstrations of the qualities of light and color as exhibits in their own right, the use of

lighted panels and screens in interactive exhibits, and the many video displays augmenting exhibits are regular features. Direct sunlight, bright light and reflected light render screens and small highlighting bulbs useless. They require special planning and provide opportunities for variety and change -- in the transitions from lighter spaces to darker ones, in the allocation of space according to the need for darkness, and in the qualities of retreat associated with shaded places, places in the poche.

Just how much are the kids learning? They just run from one exhibit to another.

This criticism of Children's Museums is a primary concern of the staff. Severe wear and tear on displays, incidental, unintentional vandalism and roughhousing is expensive and limits the accessibility of the exhibits for others. Although interactive displays encourage play and the new museums strive for an informal atmosphere, brightly lit undifferentiated spaces encourage gymnasium behavior. Contrary to lighting theory of the sixties, a lot of light is not necessary the best strategy -- even for children. Variety and change emphasizes, provides a focus, punctuates the path.

QUALITIES AND CHARACTERISTICS:

The manipulation of natural and electric light encompasses a broad range of techniques for defining space, affecting spatial perception, providing a focus, highlighting selected paths and displays, and creating moods -- from intimate and restful to the gregarious and energetic.

The particular quality of the available natural light depends upon the interaction of climate, season of the year, and time of day. That of the northwest is generally pale, misty and cool, of the southwest, bright, sharp-edged and warm. Erickson's Museum of Anthropology in Vancouver exploits and expands the pale, natural lighting by washing walls from skylights, using walls of glass, and reflecting it off water.

Whether natural or electric, light can cast strong shadows that emphasize lines, curves and edges. It can be diffuse, like the light on a soft rainy day or in twilight. It can be a warm pool, focusing attention and illuminating one of many hands-on exhibits in an otherwise undifferentiated space.

In general: darker spaces are quieter, brighter spaces livelier; illuminated, low ceilings are perceived as closer than those that are in shadow.

APPROACHES FOR DESIGN:

The following suggestions for the application of light to design is not intended as an all inclusive list of lighting techniques. Although the discussion uses the term lighting, the interplay of color and the texture of the material upon which the light falls or shines through affects the unique quality of the light.

Strategies for delineating the path can be a straight-forward reinforcement from pools to washing the walls or by targeting a focal point in the distance.

The stained glass window wall of the Denver Children's Museum serves as a focal point at the end of the first floorpath, while at the same time allowing a view through to the secure courtyard, and illuminating the vertical circulation. In addition, it is an interactive exhibit of colors and textures of glass and riddles, turning the climbing of stairs into a search for answers -- an intimate experience with a usually distant art form.

Illuminating icons, highlighting decision points -- intersections or paths -- and providing previews through the introduction of light from another source in the distance along the path, exploits the tendency of people to move toward light. Washing the walls with light establishes a stronger sense of edge. All aid in general wayfinding and physical orientation.

Conversely, movement into darker spaces can be mysterious or threatening. Provision for degrees of darkness, a transition zone, or compatible adjacencies of lowered light can facilitate the appropriate experience.

The color of the light -- warm, cool, golden green, etc. depends on the source and the direction that the light comes from: high and above, from the side, even from below can be interesting.

Providing places in the poche encourages retreat and rest and provides places for mini-theatres.

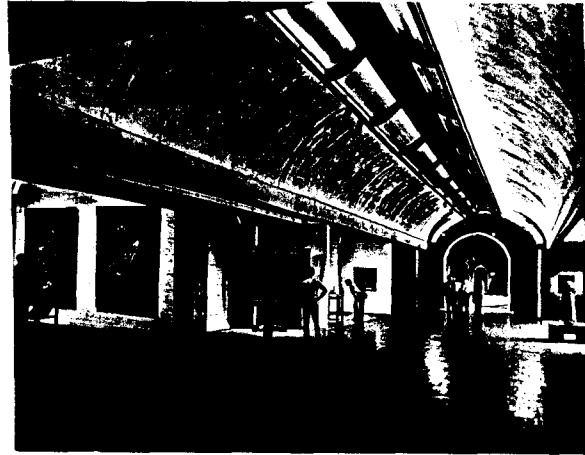
Incorporating the changing light of the seasons and the time of day can provide new perspectives for the same exhibit.

However, the disadvantages of uncontrolled light include the considerations of unwanted reflected light -- glare, and the deterioration of materials.

EXAMPLES

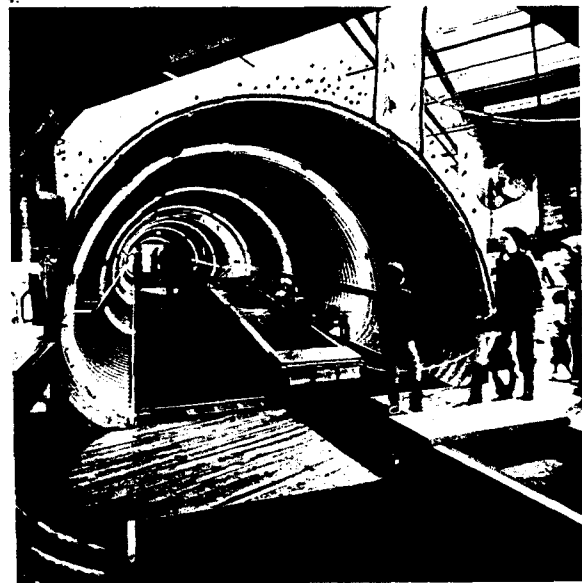
Kimbell Art Museum
Ft. Worth Texas
Louis Kahn 1972

Perforated metal diffusers spread daylight from a skylight in the crown of the vault. The unique ambience created contains the varied qualities of a silvery, luminescent glow at the top of the vault, with localized pools of artificial light at selected nooks.



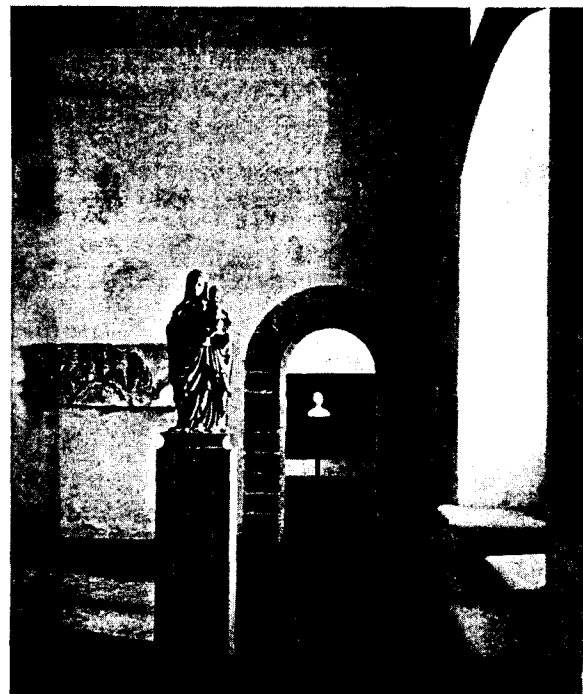
Brooklyn Children's Museum
Hardy, Holtzman and Pfeiffer 1982

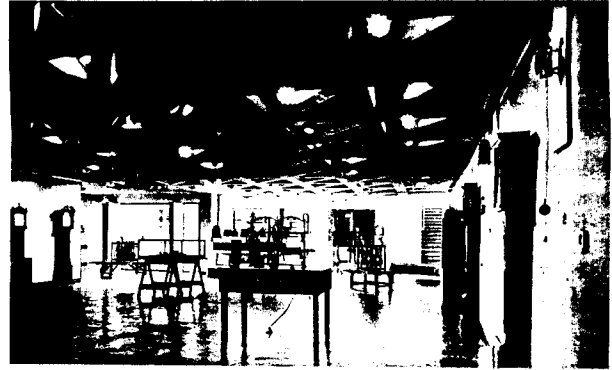
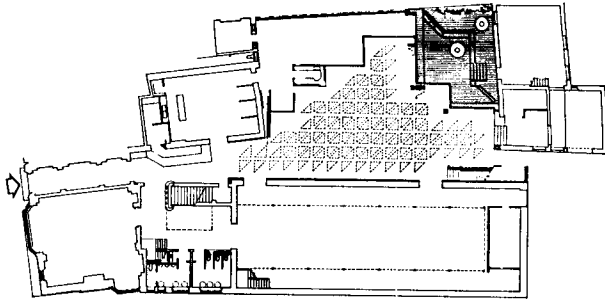
A dark tunnel serves as a main circulation path. Brightly colored, spiraling neon tubes dramatize and enliven the ambience adding exhilaration to the mysterious.



Galleria Nazionale
Palazzo Abbatellis Palermo
Carlos Scarpa 1954

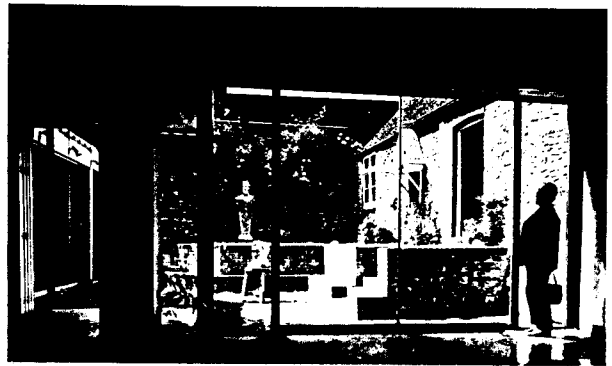
The icon serves as an illuminated focal point which directs the view through a series of rooms. Natural light from a window in the foreground further entices.





Dorset County Museum Dorchester
Brawne Associates 1971

A corner outdoor extension brings a delightful view and a sense of daylight into a large one-room addition. The utilitarian lighting is done by tungsten fixtures in the ceiling's coffers.



RELATED PRINCIPLES

- * FOCAL POINT
- * OUTDOOR EXTENSION
- * LARGE SPACES AND SMALL

* The Title is after Alexander's Pattern #252 (Alexander, 1977). The contents, however, encompasses wider set of concerns than those in Alexander's.