A fine example of "In Praise of Shadows"

Daylight, electric light and shadow in the State Guest House in Kyoto/J.

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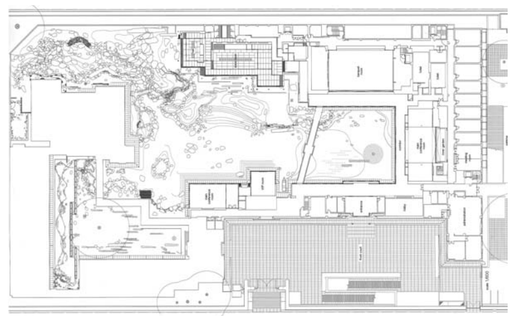
Those of you who have read Tanizaki Jun´ichiro's Buch "In Praise of Shadows" will have clear images of traditional Japanese architecture stored in your brain, images that appear to come to life when you see the State Guest House in Kyoto, Japan. The lighting scenarios described in the book could well have been written based on this project.

The building complex is U-shaped. The facades visible across the inner courtyard glow at night.

The warmly lit main entrance contrasts with the dark blue evening sky, inviting guests to enter.



Layout plan.

The State Guest House where, as its name indicates, the Japanese government houses political guests, is located to the north of the city of Kyoto in a part called Kamigyo Ward. The building is situated in the National Gardens, which is also where Kyoto Imperial Palace and the Sento Imperial Palace Gardens are located. Guests arriving at the State Guest House are immediately immersed in the Japanese culture and experience Japanese hospitality at its best. G8 ministers were invited to the conference here in 2008 where they entered into heated but productive debate on various political issues in the warm light of the incandescent lamps. Through the traditional architecture, which in itself serves as an introduction into an important part of Japanese culture, guests acquire an intensive, positive impression of the country. The U-shaped house designed by architect Nikken Sekkei covers an area of 16,000 square metres and classically surrounds an inner garden. The garden can be viewed from most parts of the building, which makes for very special atmospheres within the rooms. This is largely due to the incident daylight. The electric light supplements and substitutes daylight to impact the respective room atmospheres. The team of lighting designers from Lighting Planners Associates in Tokyo, headed by Kaoru Mende, have succeeded in creating a perfect symbiosis of architecture and light.

The building incorporates traditional Japanese architecture using shoji screens made of translucent paper as described in Jun´ichiro's "In Praise of Shadows". Natural light is filtered gently into the space, giving rise to soft shadows. In Japanese architecture shadow does not mean harsh or clear-cut shadow, but soft nuances of light. Incident daylight is shaped within the space and from room to room, losing itself gradually as it spreads over the matt room surfaces. The spread of light is determined by the shapes within the space, the interplay of outside and in, and the qualities of the materials and surfaces. In the book "In Praise of Shadows" there is a vivid description of how sunlight seeps into the house beneath the canopy at the front porch and makes its way along the corridor in a "diluted" form pe-

netrating the building and spending its final strength to softly accentuate the shoji. Jun´ichiro envisages the special atmosphere that emanates from a Japanese space in the presence of darkness as a play of light, and in the magic of the "shadows lurking in the corners".

The Kyoto State Guest House project is an impressive example of how electric light can be used to affect the modulations of natural light and create the atmosphere they generate and support. Light and architecture become one. The electric light achieves the same sensitive shaping as daylight. It does not imitate daylight, but rather transposes it.

Using advanced technology Kaoru Mende and his team have skilfully created light moods that point to traditional Japanese architecture. The lighting design is based on a number of goals that the lighting designers defined as being typical of classic Japanese architecture. Their aim was to accentuate contrasts and work with reflections and the way light penetrates a space,

Top right: daylight and electric light generate interesting tension.

Above: the lighting incorporated into the upper section of the alcove shapes the space through different soft intensities of shadow.

taking into consideration the way natural light changes throughout the day and over the seasons. This meant discovering and using the charm of natural light. For the lighting designers, this meant analysing and understanding the architecture and the prevailing daylight situation. The result is a choreography in light for the different vistas into and out of the building that arise as you walk through it.

The choreography begins for the visitor as he is approaching the building and nearing the main entrance, the dark silhouette of which stands out against the evening sky. The lower side of the roof canopy is gently lit with warm white light to generate a contrast to the dark background. The same lighting technique is used for the rear wall to the garden, inviting the visitor to pass through the gate into the inner courtyard. Low level lighting provided by lanterns together with the light spilling out of the house accompanies him on his way into the building complex. Xenon lamps are used in the exterior spaces to bring out the colour and texture of the gold foil-plated lanterns deployed along the garden wall. Thanks to the choice of warm white light sources together with the gold leaf, a material classically used with light in Japan, the reflections generate a warm, golden atmosphere. This soft, glowing light is reminiscent of candlelight.

After passing through the entrance hall, the visitor

reaches an extensive U-shaped corridor that wraps around the inner garden and provides access to the guest rooms. The walls along the garden side of the corridor comprise traditional paper screens that allow daylight to filter into the interior space. Reflections of the light shining on the water element in the garden create dynamic patterns over the paper screen surfaces. In the evening the screens are opened and the guest's view is directed outside into the garden. The illuminated facade on the opposite side of the garden is reflected in the water surface – an attractive and calming scene after dark.

Inside in the wide corridors the matt surfaces of the walls and the natural wooden floors and ceilings reflect the daylight and project it back into the space. The overall atmosphere is warm and friendly. Downlights recess mounted in the ceiling and equipped with glass fibre optics project a similar effect by creating warm pools of light on the wooden floor. The light is reflected onto the wall surfaces and the quality of the ambient light is marked by the diffusely reflecting materials. At night, dimmable, flickering lanterns are added to accent the corridor. In the daytime, natural light illuminates the sloping wooden ceiling via a cove-like slit along the top of the wall. This effect is reiterated after dark, or reinforced on darker days, using dimmable fluorescent lamps that produce an interesting gradation of light and shadow over the ceiling.

The interplay of the two components, daylight and electric light, and the way they contrast with one another is documented in many different parts of the building. Wherever you go in the building the reference to the garden is omnipresent in spite of the fact that the shoji are only translucent and not transparent, be it through the reflections of the light on the water surfaces that are projected onto the paper screens, or through the shadows cast onto the paper screens from outside, their contours reminiscent of shadow theatre. Movements occurring in the dynamic course of the day as well as seasonal changes make for a fascinating, ever-changing backdrop. Strategically positioned lanterns inside the buildings underline the contrast between daylight and electric light and generate interesting tension.

At the far end of the corridor the visitor comes across the lobby to the ceremonial hall. Here it is very evident what Jun´ichiro meant when he wrote that the beauty of Japanese architecture is based solely on the gradation of shadow. The light entering via a skylight integrated into the alcoves shapes the space in soft gradations of shadow, providing a backdrop for the traditional paper lanterns.

This lobby forms the perfect prologue to the highly prestigious room to follow, which demonstrates classical Japanese tatami flooring.

In contrast, the banqueting hall, which seats 120 guests, has received a completely different design. The materials applied are very traditional, the furnishing minimalist. It is here that tradition meets technology in the form of an integral luminous ceiling, which is the main source of lighting in the space. The structure is positioned centrally and consists of a conglomerate of 105 individual classic-looking elements which conceal advanced technology. Traditional woodcraft techniques were used to design the three-dimensional ceiling that fits together in origami fashion.

Every individual element can be adjusted over the different levels it is made up of. Light sources of varying luminous intensities aligned to the different levels again change the appearance and thus the effect of the individual element while individual lighting control allows the luminaires to create different atmospheres in light. This means the design of the ceiling can be altered to align with the use of the space.

The rows of direct downlights along the long sides of the luminous ceiling structure that provide a contrast to the diffuse component are not visible behind the individual ceiling elements. They create a carpet of light and thus illuminate the entrance area on the one hand, as well as providing soft light over the wall in the depth of the space. The tiny sparkling downlights at the frame intersections make for a break in the traditional Japanese light and shadow design approach which incorporates discreet quantities of light over matt surfaces. This was a purposeful decision in favour of a festive component.

From the point of view of its furnishings the combined meeting and VIP room is the least traditionally Japanese of all the spaces. The main feature is a light, mobile-like structure consisting of a series of juxtaposed paper squares which is suspended beneath the ceiling and appears to be floating. One has the impression that the panels are self-luminous. They provide diffuse light in the centre of the space. Small downlights recessed into the ceiling on either side of the central chandelier structure direct light into the floor from where it is reflected evenly onto the opaque walls and translucent shojis. In the areas nearer to the windows the structured, sloping timber ceiling is washed gently with light emitted from a wall moulding directly beneath the ceiling. Here too the indirect light reflected by the wooden surfaces makes for a warm and welcoming atmosphere.

Lighting concept for the circulation zones.

Daytime and nighttime lighting situation in the corridor.

The main feature in the combined meeting and VIP room is a mobile-like structure of illuminated paper squares that appear to be floating.

All point sources in the space are optical fibre-based, which makes sense given the fragile paper structure. The light source is a CDM-SA 150 watt lamp, equipped with eight different colour temperature conversion filters and a dimming control system. This system allows the lighting to be adjusted to complement incoming natural light and to achieve suitable luminous levels in the room.

The main conference room disposes over a luminous ceiling, which is made up of square fields separated by profiles. The latter accommodate an alternating series of mini-downlights equipped with low-voltage halogen lamps and adjustable glass fibre downlights. The individual sections of the ceiling structure consist of a triple layer of fibre glass material which offers differentiated illumination through two different lighting components. Indirect fluorescent battens backlight the material and generate an evenly lit square, with the glass fibre downlights providing the sparkle. This room therefore also offers the opportunity to create different atmospheres using the lighting with the goal of having a positive influence on the conference participants.

The use of electric light follows the same principle throughout the building: it primarily complements daylight and since it is applied to achieve a daylight quality, a natural atmosphere in the space is maintained over the course of the day. The gradual change in the lighting quality is further enhanced in the way the shoji change from a glowing, light-emitting surface during the daytime to an illuminated element after dark. The U-shape of the building layout renders the elevations on the opposite side of the inner gardens visible. At night, the gently lit facades frame the garden and reflect in the pond.

The garden as well as the building thus become part of the play of vistas guests enjoy when moving through the complex. The house creates its own scenery, and provides its own backdrop for its discreet aesthetic performance. The electric lighting scheme supports this calm, reserved spectacle. Pity that only state guests are invited to this special venue – to witness Kyoto tradition and culture, and to be received, wined and dined in this welcoming atmosphere. It might be a good idea to invite the politicians who are promoting phasing out incandescent lamps to walk through these spaces. Those who are not likely to be invited now or later, but are nevertheless interested in learning more about the fascinating mysteries behind shadow, can resort to the book "In Praise of Shadows" by Tanizaki Jun´ichiro and enjoy comparing what they read with the images on these pages.

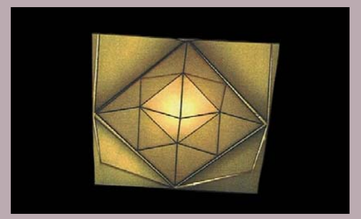
Project team:

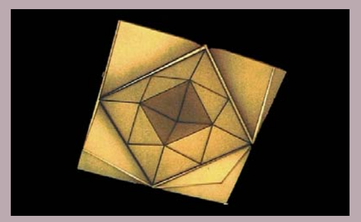
Client: Japanese government, cabinet

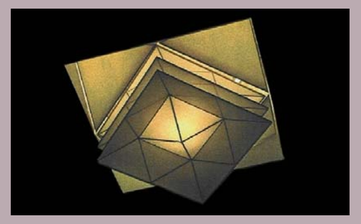
Architect: Nikken Sekkei

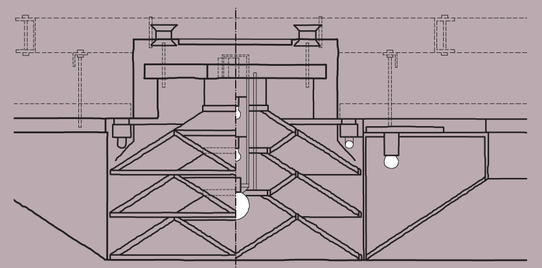
Sculptor: Kisaburo Kawakami

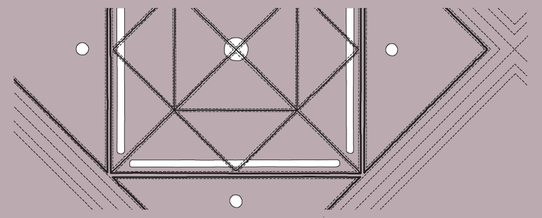
Lighting design: LPA, Lighting Planners Associates, Kaoru Mende











Luminaires equipped with 40, 60 and 100 watt incandescent lamps are mounted above the origami elements. The light is refracted by the material and provides diffuse ambient light for the overall space, lending the walls their typical soft matt gloss. A fluorescent lamp is mounted on each of the four sides of each element. Mini recessed downlights are integrated into the frames where they intersect. These make for the direct, sparkling component and also serve as emergency lighting.