Lightness in Architecture and Industrial Design

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No matter the place one travels to, there will be an inevitable quality of uniqueness. This quality of uniqueness is expressed with the everyday life of those who become part of the place. Everyday life is not static. It is not a routine. It is a layering of time and person’s experience. A person wakes up from sleep in their home, gets ready for the start of a new day. What will that person do for the next 24 hours? Will they lounge around in their home? Will they go to work? Will they go to school and learn about the world? It is this layering that can tell time for a person. What if one can create a time for their environment based on the space and ultimately one’s own feeling in the moment? How would that look like – feel? Possible answers to these questions can arguably be found in both Architecture and Industrial Design. Observing human interaction in Japan, people are comfortable with adapting to changing spaces. Today, people express their life through spaces they use and objects they interact with every day. Lightness expresses the transparent, undivided relationship and structure of space through the senses and experiences. Lightness in architecture and industrial design is achieved through perception of layers, flexibility of use and the ideals of a haptic experience.

“Paper is materialized energy of itoshiroshi, that extreme form of purity that is ladled out of chaos and which appears to us as both potentiality and actuality. Human beings who come in contact with it’s latent potential are naturally driven to express themselves.” – Kenya Hara, White, 14.

Paper is an object that is touched and used every day. It has the characteristics to be as adaptable as the user wants it to be. Of course, the material has its own constraints, but in the freedom to use the paper and express everyday feelings through the material is where lightness is achieved. There is that transparent relationship between the user and the paper that is unique and based on time spent using the paper. Paper is a victim of the traditional view that light objects lack substance – paper in its most common form, as a sheet is both lightweight and thin. It may be that people take advantage of paper. Its availability worldwide, flexibility for different projects blends into everyday life. There is nothing wrong with a useful product that has helped better ones life experiences. Categorizing it as just something useful is an understatement. Paper is a beautiful product. The process of making paper is intensive, strength-demanding and time consuming. The structure of paper is the result of labor and force – something that cannot be downgraded or seen as less because of its light form outcome. It is also beautiful to be able to comprehend that this product is now available to everyone. The ability to blend into an everyday life is the most valuable quality in a product. A product should be part of the layering of time - an everyday helper to be simply put. Just like paper, the notion irreversibility of an experience can applied to spaces. A space becomes what it is because of the layering of experience, the movement of the natural environment and of course, people. The opportunity given in a free space – a blank sheet of paper in which the individual has pure control of the situation – is that not what creates a living? Being able to create a space for oneself every day is what gives a layering of experience, of life.

One component found in both structures and objects that is frequently overlooked is color. This can be the presence or absence of color both in architecture and industrial design. As something as simple as color, it is just as significant as the object itself. In Kenya Hara’s book, White, he describes white as a perception and something unsearchable. Whiteness is potential and the growth of a reality. White
can also be perceived with a shadow, like black. Hara compares white paper in contrast with black letters that create text. “Black cannot stand by itself or it will fold upon itself.” It is the white paper that has created this potential of creativity in an empty surface. Whiteness can be slightly different based on the human’s perception of color. Whether it is a light white or a darker white, the space of perception is altered with human interaction and decisions of the moment.

White perception and lightness can be found in the works of Kazuyo Sejima and Ryue Nishizawa. Their partnership as SANAA creates spaces in which the individual develops a journey to perceive these qualities. Lightness is expressed through thin walls, glass, reflective surfaces, and the human perception of white layers. In El Croquis 139, Sejima and Nishizawa are interviewed. In the progression of the interview, there is a misconception that the architects clarify extensively about lightness. In use of thin walls the architects create a new kind of division between spaces. The thin wall can create an opportunity of growth in experience. Divisions should not have to create a space for a person to experience or feel something different every time. If something becomes open-ended, then an infinite freedom of the future is now part of that thinness of the wall. It is not the look of lightness, but of how transparent and how flexible the use of space is. Through some aspects such as material and layering, SANAA achieves this sensation of openness in their projects for those who live and visit these places. Sometimes there can be a misinterpretation that thin walls are accessories – a quality for the aesthetic. In fact, structure in place that expresses lightness becomes an even more successful point to consider. Just like the freedom of individual experience in an open area, the engineering of the structure can also be included in that freedom of being innovative in material exploration and implementation.

As one approaches the shores of Naoshima, the ferry exit is a long ramp that connects the people again with the land. The Naoshima Ferry Terminal by SANAA is designed in mind to make the connection of nature and the built world seamless. In an interview with Juan Antonio Cortés, SANAA architects, Kazuyo Sejima and Ryue Nishizawa describe aspects that relate to traditional Japanese architecture, Nishizawa responds with:

“Structure. A very clear structure, light, transparency, and the ability to see the organization. There is a column, there is a beam, there is a roof, there is a secondary beam or something else: all the relation all very clear. Everything is clarified, defined. These kinds of things create a transparent feeling in the space.”
– Ryue Nishizawa, El Croquis 139, 11.

The ferry terminal consists of an expansive flat metal roof support by thin, mirrored walls. The walls are interrupted with empty spaces between them. These are not continuous along the length of the terminal. In contrast to the metal roof, the hypostyle-like area underneath is filled with slim columns that meet at the intersection of beams and the roof. The beams are flushed to the under surface of the roof. The connection of the roof with the thin columns, mirrored walls, glass enclosures, and the concrete ground express a fluidity of lightness. There is no concrete hierarchy and because of this, the ferry terminal is flexible in use. At first glance, these closed areas do not even exist. The only spaces where there is enclosure are the glass volumes that house meeting rooms, waiting rooms and shop areas. One has to walk around and experience that small division of what is there and what can be felt and entered. The function in each volume is completely up to the user in the moment. There is furniture available but the configuration of the space usage as people wait for the ferry is up to them. The flexibility of the terminal space emanates opportunity and connection from the built world with the beautiful natural landscape of water meeting earth. The terminal is so transparent and clear in structure that it gives the sense that it is part of the water. The directionality of the pattern of the roof justifies this feeling. The placement of the columns not only tells direction, but also lets the individual wander as time passes. The way the columns are aligned so that the roof hovers over to protect and to unite people under its refuge creates the sense of community and open communication between locals and visitors.

Walking towards Shibaura House, there is pure clarity in the organization of the
building. Playful uses of different materials and the function that materials take create a different experience in the interior spaces. The first floor as one enters is glass on two sides – the sides facing the streets. This area is a space where the local people of the neighborhood casually enter to use it as they wish. There are mothers and children that take their lunch breaks and observe the people walking on the outside spaces. Children are observing people and glass walls just make it even more educational for them to understand the outside world. In one of the upper floors, there exists a terrace that acts like a balcony and porch in a home. From this area, one can access the floor above, almost like a secret route using an open space where the only thing separating the outside air and the interior is a chain link wall that is commonly seen as a functional fence. Comparing Shibaura House to Ferry Terminal in Naoshima, Sejima and Nishizawa understand the adaptability of a structure to natural human movement. Having this space exist for this type of user is a successful example of everyday life and multi-functional spaces. People nap, feed themselves and their children, have coffee breaks with co-workers, gather to have company meetings, and take temporary refuge from cold weather in Japan. Because of this free movement of people in a space, it is ideal for a place that changes day by day – a city where people with different lifestyles create a community that is traditionally seen as separate lives in an open outside world.

“By layering different floor plates we created spatial diversity and visual continuity between activities.” – SANAA, El Croquis 155, 162.

Lightness in Shibaura House is achieved through the use of unconventional materials for walls like chain link and continuous curved glass in order to connect the experiential aura of bringing in the city landscape, city people and plants to the building. The chain link wall around the terrace area invites people to be more aware of their surroundings. That includes the ability to see more of the city but also experience the sounds of people walking on the sidewalk and the busy street traffic below. Lightness in this case is the ability to fuse experience of being outside and inside in the most natural way – almost like opening windows at home to let the breeze in. The ability to create diverse areas of public and private make the experience of the people using the spaces a little more intriguing and inviting to continue that type of lifestyle. Even from personal observation, it was wonderful to see how people of all walks of life can find refuge in spaces that only humans can create over time. These interactions of people within these spaces make every day a global experience and that is refreshing to see.

In structures designed by Kazuyo Sejima, there is freshness to the idea that open spaces can be easily adaptable to everyday life and not asserting one function that can disturb free movement. Sejima in an interview with Koji Taki says, “I believe that architecture performs a function of which it and only it alone is capable. This function is closely entwined with the way people lead their daily lives.” The same could be applied to industrial design. Industrial Design is user-defined along the actions of everyday lives. Life is a dynamic time when events are constantly changing. Life should also benefit from having things follow this spontaneous rhythm of lifestyles.

“Rationalizing the production process is a common idea today, but MUJI’s simplification has never resulted in cheapening. Instead, it had led to the manifestation of aesthetics. MUJI’s fresh, pure products were the result of product development in the service of quality and function, as well as simple packaging and the use of unbleached paper.” – Kenya Hara, Designing Design, 233-4.

Material choice relays the feelings of the product. Polypropylene (PP) is a common material for industrial design and readily available for manufacture. Because of the availability, consumers may see it as cheap and lack of craftsmanship. Henry Dreyfuss, referring back this book, states that if an object can be mass manufactured, industrial designers are able to share their ideas with the world. MUJI products are a great example of a team of designers that share this idea. One of their works would be the storage box. Through the use of polypropylene, MUJI is able to express the cleanliness and the ultimate customization of the product. Because the product is mass manufactured and found in many homes, the ability of this object to transform an experience of
finding clothes in the morning for the start of the day or locating small items that have found a place in a translucent box becomes something that everyone can enjoy. The ultimate play of white translucency transforms the object as being a form of potentiality and miniature spaces of everyday life. Each shirt in the box has its place and its unique color quality becomes a personality seen through the use over time. The product user is therefore represented in their daily items. The non-opaque nature of the material breaks the barrier of privacy. It exposes what has traditionally been hidden. As a matter of fact, because of the object's non-opaque expression, there is even more potential for the user to make it blend with their everyday life. The translucency is not in essence the reason why MUJI products achieve lightness, but lightness is achieved through the idea of having this connection with things becoming visually distorted while in these boxes. That distortion is able to awaken the senses of the user and that is why lightness of MUJI products is so inviting. With the material choice, its flexibility of existing as different things also enhances the user experience. PP is a relatable material and having that honest transparency of manufacture process and form serves the everyday user a peace of mind.

Lightness is a haptic experience. It has a relation to the human's ability to have senses. Kenya Hara is in book, Designing Design, states that a haptic experience is “relating or pleasant to the sense of touch.” Ultimately, it is the state of mind we take in order perceive things through our senses. Objects take on many roles through their expression of material, color, form, texture, but in the end, objects create this human connection to the user through the ability to awaken human sensors such as the skin, the eyes, ears and more. Not only is lightness received through these sensors, but also it actively affects the memories of the senses and users. One example would be the Panasonic gel remote control. Its design in choice of form and color is not new. The way the buttons are placed is nothing innovative also. The entire focus of its design was its ability to awaken the human sensors – to create this abnormal experience through the use of touch. After much use, the remote control turns from this squishy, life-less piece of silicone into something that hardens over use and has a presence in the user's hand. Through lightness, humans and objects have this transparent relationship to one another, being able to be a unity of experiences and functions.

“There is ‘emptiness’ in white, and there is also ‘white’ in emptiness.” – Kenya Hara, White, 50.

Because of the human ability to understand and perceive unique qualities through senses, people have the freedom of perceiving things not as they are, but as an ideal feeling. Simply, people interpret and use their senses through memories and experience. At Teshima Art Museum, designed by Ryue Nishizawa, the playfulness of the landscape, the structure and the use of the space is incorporated in a way that there is no division of movement from when one takes a path through a small forest and by the time one reaches the entrance of the museum, it felt as if the whole experience was another world. There was no division in the curve-like movement from the beginning to end. This almost float-like occurrence is what prepares the potentiality of the space. The interior joins the single piece artwork, Matrix by Rei Naito. At first glance, the museum is completely empty. There are three openings – two elliptical openings on the roof, which let in the natural elements such as sun, water and air freely. The third opening is the entrance where in certain areas, is not visible from the inside. This emptiness of space is a total change from the traditional museum where walls and floors are filled with content. Because of its white-drenched emptiness, the roof that is attached to the solid earth is so float-like that one still feels the outside nature. It lets the individual roam in any possible direction and letting the mind wander upwards. Lightness in Teshima Art Museum is also a haptic experience. The human body in the white thin concrete shell is exposed to the constant change of Teshima Island weather. The openness and the feel of empty space within the shell structure express freedom of feeling and exploring. There are no hidden construction supports and there is no hiding of what is actually there. There is a transparency of honest design and construction. Because of this, lightness of intent and freedom of the user’s senses enhances the memories made in the space and the interaction with others is even more pure.
Concluding these studies, lightness in both architecture and industrial design in Japan is something cherished and inspirational. In a world where so many individuals can globally connect through thin screens and smaller portable devices, it shows the potential of thinness and lightness to be something greatly integrated to everyday life. The lightness of structures executed in Japanese architecture and industrial design breathe new life for those who have experienced these spaces. The spaces are able to vanish the tensions of construction make the building and natural environment of equal importance. The ideal of sharing space, existing with others, and grouping in a way that the physical and spiritual environment of spaces is shared, this concept is exactly what designers are striving for the future. The present and everyday life of human experiences build the spaces that are occupied. It is based on this spatiality that lightness is achieved – focusing on the usage of space rather than the forcing of the plan and functionality. Because of the society in which we live use places in unconventional manners, why should the future spaces still keep the traditional following of a plan? That is when lightness of feeling and the ability to make an open space completely personal achieves its goal – connecting this changing society with creative opportunities of expression.
1 Juan Antonio Cortes, A Conversation with Kazuyo Sejima and Ryue Nishizawa. El Croquis no. 139. 2007. p. 11.


