

# “Biophilic Design”- *An imperative need*

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**Abstract:** Do the vast water bodies, lush greenery and serene environment put you at ease? Have you ever surrendered yourself to nature’s tranquility in search of peace? Well, retort would be affirmative. Nature used to be all around us, it still is but the built environment has taken over all of it. As per readings, it has been established that humans spend 80% of their time indoors, considering the times of pandemic this percentage would have increased drastically. The day-to-day interaction of humans with nature is shrinking.

Frank Lloyd Wright, renowned American architect, and educator had quoted –“Study nature, love nature, stay close to nature. It will never fail you” Hence, Biophilic design can be the savior. An imperative need in times like these. Paper is commenced with the introduction to Biophilic design moving on to the Principles and attributes of Biophilic design.

**Key Words:** Nature, Biophilic design, water bodies, greenery

## 1. Introduction to Biophilic Design

With the pace and scale of construction today, the amalgamation of nature with the built environment is one of the greatest challenges of recent times. Biophilic design is a deliberate, systematic, and informed approach to bringing beneficial contact with nature into the built environment. The biophilic design depends on engaging, immersive, and ecologically connected experiences of nature. Incorporating direct or indirect elements of nature into the built environment has been demonstrated through research to reduce stress, blood pressure levels, and heart rates, whilst increasing productivity, creativity, and self-reported rates of well-being. People do not benefit from exposure to nature unless that involves engaging and recurring, instead of isolated experiences. Effectively incorporating nature into people’s lives in a lasting and meaningful way requires various principles and attributes of Biophilic design.

## 2. Principles of Biophilic Design

The nine principles of biophilic design provide a foundation for the effective practice and application of biophilic design.

- i. Biophilic design is ineffective if its outcome has no impact on the resident’s physical or mental well-being. A single plant, a sequestered image of nature, and an inaccessible green roof generally yield little or no beneficial effect over time, instead, these elements are usually ignored.
- ii. Biophilic design must create an overall ecological locale where numerous forms of relationship to the natural world complement one another. For instance,

inaccessible outdoor areas, skillful but isolated landscape painting, a vertical green wall at a variance would not be able to provide a substantial effect on human beings.

- iii. Infrequent and intermittent contact with nature is hugely unsupported by the values and culture of a group hence not resulting in long-term benefits. Biophilic design must encourage engagement and immersion in nature.
- iv. Edifices and landscapes that focus on a single value-for example, an organically shaped structure that is designed only to make an aesthetic statement, that is solely intended to exploit nature, may elicit little long-term attachment or benefit.
- v. Humans tend to affix to the spaces that contribute to their comfort, health, productivity, and well-being. Successful biophilic design results in emotional attachment to edifices and landscapes.
- vi. The effective biophilic design fosters a sense of connection to nature. Windowless office cubicles, featureless meeting rooms, and isolated dining areas reinforce feelings of separation and loneliness. Biophilic design must enhance the feeling of membership in a community.
- vii. The connection of nature with the built environment must occur in a variety of spaces including the exterior, interior as well as transitional spaces that connect building interiors with the outside. Biophilic design must occur in a multiplicity of settings.
- viii. Efficacious biophilic design involves an authentic experience of nature, rather than artificial or pseudo. An isolated planter, captive non-native organisms, or artificial furnishings are often perceived as inauthentic or not genuine.
- ix. The successful practice of biophilic design seeks to create a more productive, resilient, and self-sustaining natural system that benefits both humans and non-human environments alike. Biophilic design must provide long-term benefits to both people and nature.

## 3. Experiences and Attributes of Biophilic Design

Specific design strategies can immensely assist the practice of biophilic design. Building of modern times is often hastily and abruptly designed, with a short-term mindset and large-scale footprint. With guidance and strategies, one can bring nature into the built environment. The range of strategies for the practice of biophilic design includes three basic elements and twenty-five associated attributes. Each of the three elements represents fundamental ways that humans experience nature: the direct experience of nature, the indirect experience of nature, and the experience of space and place. The twenty-five

attributes associated with each element involves the actual practice of biophilic design.

- i. The direct experience of nature- This involves the actual connection with basic features and characteristics of the natural environment. Light, air, water, plants, animals, landscapes, weather, views of nature and the outdoors, fire are the attributes that are placed under this category.

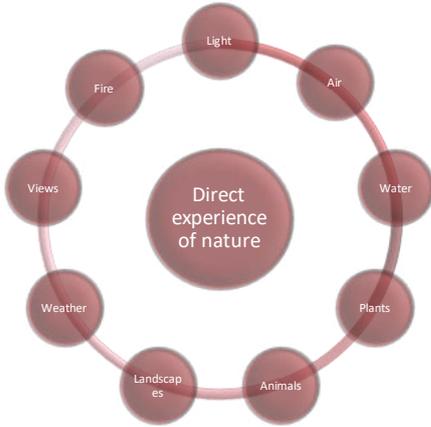


Fig 1: Features of Direct experience of nature

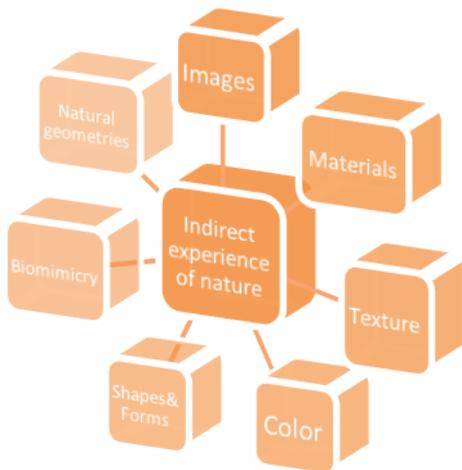


Fig. 2: Features of Indirect experience of nature

- ii. The indirect experience of nature entails the use of images, pictures, paintings and other representations of the natural world. It also involves the transformation of natural materials such as wood, wool, metal, etc. into an array of products such as furnishings and building materials. Certain textures, colors, natural geometries, information richness also contribute to this.
- iii. The third element of biophilic design is the experience of space and place. Attributes associated with this are organized complexity which means balancing detail and diversity with the order, transitional spaces( linking inside and outside

environments as well as interior space), mobility, ecological and cultural connections to a place and the amalgamation of parts into wholes.

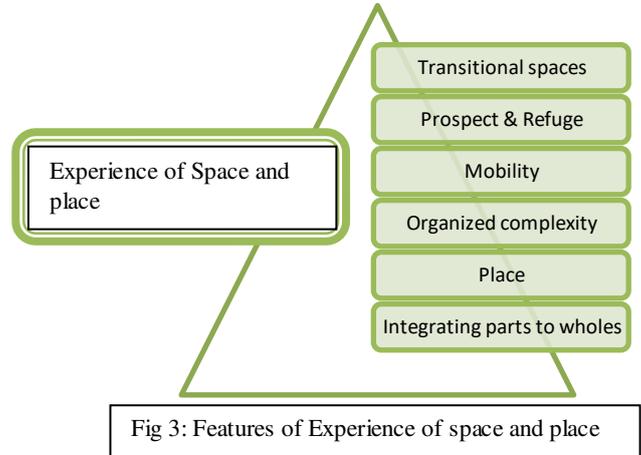


Fig 3: Features of Experience of space and place

#### 4. Lifelike edifices

Optima Camelview village, designed and developed by David Hovey is a residential complex in Scottsdale, Arizona. The development includes extensive vegetation at multiple levels that reinforce the feeling of connection between the built and natural environments.



Fig 4: Optima Camelview village, Arizona(Google image)

Ponta dos Ganchos resort in Brazil incorporates several biophilic design attributes that enhance its appeal. Intimate relationship of land and sea, striking ocean views, an abundance of natural materials, close connection between the interior and exterior outside environments, and areas of prospect and refuge.



Fig. 5: Ponta dos Ganchos, Brazil (Google image)

The Johnson wax office building in Racine, Wisconsin, designed by Frank L Wright in 1936, is a well-liked and long-used building. Several biophilic features contribute to its positive effect particularly the central interior space, which has been likened to a savannah landscape with a spreading tree canopy. Other notable features include the structure's organic shape, sense of spaciousness and diffuse natural lighting.



Fig. 6: The Johnson wax office building in Racine, Wisconsin (Google image)

## 5. Conclusion

Many significant occurrences of biophilic design connect to people on varying levels of their inherent inclination to value nature. The effective biophilic design fosters strong feelings of emotional affection and attachment to a place. The successful biophilic design satisfies a host of people's physical and mental needs in ways that enhance health, performance, and well-being. And lastly, the biophilic design strikes us with the experience of beauty and harmony in a structure simultaneously preserving Mother Nature.

Hereby, quoted are the few examples of the many lifelike edifices.