

BIOPHILIC DESIGN

VIRTUAL FIELD TRIP TO MOUNT ROYAL

A sensory exploration of the 14 patterns of biophilic design.

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CONTEXT

- Population growth, urbanization and climate change will require us to rethink our relationship to our built environment.
- Biophilic design presents itself as a new design paradigm 'that emphasizes the necessity of maintaining, enhancing, and restoring the beneficial experience of nature in the built environment' (p vii, Biophilic Design, 2008).



ORIGINS

- Natural themes have always been present in design and architecture.
- ‘Biophilic Design is not a new phenomenon, rather, as a field of applied science, it is the codification of history, human intuition and neural sciences showing that connections with nature are vital to maintaining a healthful and vibrant existence as an urban species’ (p.6, 14 Patterns of Biophilic Design).



EVIDENCE BASED APPROACH

- Biophilic design is grounded in scientific research that explores the relationships between our cognitive, emotional and physiological systems and our surroundings.
- Studies to date have established a positive relationship between exposure to natural or natural-like elements and stress reduction, improved cognitive performance and creativity, as well as faster healing.



THE 14 PATTERNS OF BIOPHILIC DESIGN

- Terrapin bright Green, an environmental consulting and strategic planning firm took things a step further and have articulated the relationship between nature and the built environment in the form of 14 patterns of biophilic design.
- This framework can be used as a tool by the design community to help integrate sensorially rich and nature inspired elements into their projects.
- The following slides are meant to portray the essence behind each pattern via photos taken during a field trip to Mount Royal.





P1- VISUAL CONNECTION WITH NATURE

A view to elements of
nature, living systems and
natural processes.

P2- NON-VISUAL CONNECTION WITH NATURE

- Auditory, haptic, olfactory, or gustatory stimuli than engender a deliberate and positive reference to nature, living systems or natural processes.





P3- NON-RHYTHMIC SENSORY STIMULUS

- Stochastic and ephemeral connections with nature that may be analyzed statistically but may not be predicted precisely.



P4-THERMAL AND AIRFLOW VARIABILITY

- Subtle changes in air temperature, relative humidity, airflow across the skin, and surface temperatures that mimic natural environments.



P5-PRESENCE OF WATER

- A condition that enhances the experience of a place through the seeing, hearing or touching of water.



P6-DYNAMIC AND DIFFUSE LIGHT

- Leveraging varying intensities of light and shadow that change over time to create conditions that occur in nature.





P7-CONNECTION WITH NATURAL SYSTEMS

- Awareness of natural processes, especially seasonal and temporal changes characteristic of a healthy ecosystem.

P8-BIOMORPHIC FORMS AND PATTERNS

- Symbolic references to contoured, patterned, textured or numerical arrangements that persist in nature





P9-MATERIAL CONNECTION WITH NATURE

- Material and elements from nature that, through minimal processing, reflect the local ecology or geology to create a distinct sense of place.



P10-COMPLEXITY AND ORDER

- Rich sensory information that adheres to a special hierarchy similar to those encountered in nature.





P11-PROSPECT

An unimpeded view over a distance for surveillance and planning.

P12-REFUGE

- A place for withdrawal, from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.



P13- MYSTERY

- The promise of more information achieved through partially obscured views or other sensory devices that entice the individual to travel deeper into the environment.





P14- RISK AND PERIL

An identifiable threat coupled
with a reliable safeguard.

Credits & References

- All photographs were taken on the evening of May 5th, 2020 on Mount Royal in Montreal by Katia Forgues, Zachary Forgues and Diane Thode.
- The “14 Patterns of Biophilic Design” framework was created by Terrapin Bright Green inc. and was used with their permission (© Browning, W.D., Ryan, C.O., Clancy, J.O. (2014))
- “Biophilic Design- the Theory, Science and Practice of Bringing Buildings to Life”, edited by Stephen R. Kellert, Judith H. Heerwagen and Martin L. Mador, John Wiley and Sons, 2008

