HEALING BY THE SEA: AN EMPIRICAL STUDY INTO BIOPHILIC DESIGN

Arch 772 Design Thesis
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To what extent can biomimicry benefit occupants of a tropical biophilic design?
PROBLEM STATEMENT
To what extent can biomimicry benefit occupants of a tropical biophilic design?

PROJECT TYPOLOGY
A tropical biophilic resort
PROJECT CLAIM

Vacationing is essential to creativity, health, and overall well-being. A tropical region offers a lot of beneficial aspects, both environmentally and architecturally, to successfully accomplish these objectives.
Not only does the environment in which we spend time affect our perception, but the space connecting us with nature is crucial to a successful healthy rejuvenation of mind, body, and soul. Tropical regions and coastal environments have shown to have healing properties and welcome relief from stress, anxiety, and tension (Aqua for Balance, 2011).

I believe that the connection between the nature in a tropical region and the traveler can be enhanced by biophilic architecture. A successful design can promote a more healthy life for not only the guests, but also the environment in which the design is built. The resort will improve the local economy and provide more job opportunities for local residents.
Biophilic design is defined as “the deliberate attempt to translate an understanding of the inherent human affinity to affiliate with natural systems and processes - known as biophilia - into the design of the built environment” (Kellert, Heerwagen, & Mador, 2008). Coastal regions have been proven to have positive health benefits and therefore is the ecosystem being used for this proposal.

First, it is becoming increasingly clear that biophilic elements have real, measurable benefits relative to such human performance metric as productivity, emotional well-being, stress reduction, learning, and healing.

Second, biophilic features foster an appreciation of nature, which, in turn, should lead to greater protection of natural areas as well as efforts to eliminate pollution and maintain a clean environment (Kellert, Heerwagen, & Mador, 2008, p. 326).
CASE STUDIES
Enrico Daffonchio needed to design an environmentally responsive piece of architecture with an atmosphere of relaxed comfort in the wilderness. The conceptual idea was to set the resort into the landscape subtly; providing certain luxuries while offering an intense and direct experience with the natural surroundings. The structure is touching the ground plane lightly with the use of stilts. This feature is adaptable and can be removed without a trace. A designed bonus for a site located within a National Park.

Information and images were courtesy of the December 2006 edition of Architectural Record. The article was written by Sarah Amelar.
Architect: I-10 Studio, Marwan Al-Sayed, Wendall Burnette, and Rick Joy
Construction: Complete October 2009
Size: 78,400 Square Feet and 34 Units

Some key elements I pulled from this project revolve around privacy, focus, relaxation, minimalism, and purity. This set of words paraphrases the entire resort as a whole. The project architects focused on nature, and intentionally highlighted it with the minimal furnishings. Spareness and purity are dominant, materials are similar to those of the surrounding desert landscape. “Isolation and austerity meet extravagance of the most refined nature.”

This specialty project, in my opinion, could be classified as a wellness resort.

Information and images were courtesy of the May 2010 edition of Architectural Record. The article was written by James Reginato and Suzanne Stephens.
SITE SELECTION
HUSKING THE OUTER SHELL OF THE COCONUT
GRINDING THE FLESH FROM THE SHELL
GRINDING THE FLESH FROM THE SHELL

DRYING THE FLESH OVER SMOLDERING HUSKS
LEARNING THE PROCESS OF MAKING COCONUT OIL
FINAL STEP IS TO PRESS THE DRY COCONUT TO EXTRACT OILS
FINAL STEP IS TO PRESS THE DRY COCONUT TO EXTRACT OILS

COCOA BEANS
SIMPLE, ELEGANT HAND MADE STRUCTURES

LARGEST ORCHID GREENHOUSES IN JAMAICA
SIMPLE, ELEGANT HAND MADE STRUCTURES
CARIBBEAN VIEWS FROM EVERY GUEST ROOM
IMMERSION OF ARCHITECTURE AND NATURE
1. Heliconia
2. Ginger Lily
3. Perry Winkle
4. Bamboo
5. Almond Tree
6. Hibiscus
7. Courtney Plant
8. Lobster Claw
9. Orchid
INSPIRATIONAL FORMS
PROCESS SKETCHES

FIBONACCI "WAVES"

LAYERS WAVE'S FOCUS RHYTHM

CENTRAL FOCUS OF NATURE

focal point/everything revolves & returns to nature

WOOD
FINAL DESIGN
RESORT MASTER PLAN

01 LOBBY
02 FRONT DESK
03 ORGANIC STORE - LOCAL MARKET
04 ADMINISTRATION BUILDING
05 PUBLIC RESTROOMS
06 MULTI-PURPOSE SPACE
07 ACTIVITIES OFFICE
08 RESTAURANT
09 STAFF ROOM
10 LAUNDRY FACILITIES
11 LANDSCAPE AND MAINTENANCE
12 STAFF HOUSING
13 FACILITY MAINTENANCE AND SUPPORT
14 TENNIS COURTS
15 CENTRAL LOUNGE
16 POOL(S)
17 JACUZZI SPA
18 MEDITATION AND SPA
19 BOAT DOCK
20 COURTYARD
21 RESORT PARKING
22 PRIVATE BEACH
23 CARIBBEAN SEA
TYPICAL VILLA CONSTRUCTION

- Palm thatch roof covers
- Wood decking
- 2 x 4 wood beam supports
- Operable clearstory
- 2 x 6 insulated wood stud wall
- Exterior wood side finish
- Sun shade louvers
- 2 inch wood floor decking
- 2 x 10 floor joists
- Joist hangers
- Tree columns
- Concrete footings
- Water, electrical, and waste
TYPICAL CARIBBEAN VIEWS
TYPICAL SINGLE UNIT
TYPICAL LOFT SUITE
THANK YOU,
QUESTIONS??