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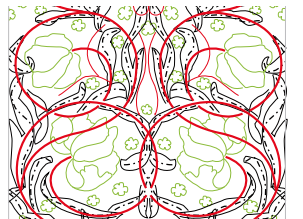
L-4  
T-14  
F-16



S-Line  
William Morris, *Snakeshead*: Leaves (4) + Twigs (14) + Flowers (16)



L-34  
T-8  
F-30



S-Line  
William Morris, *Pimpernel*: Leaves (34) + Twigs (8) + Flowers (30)



Roses  
Buck Hardy Roses, 20-30 petals



Roses  
Climbing Roses, 50-60 petals

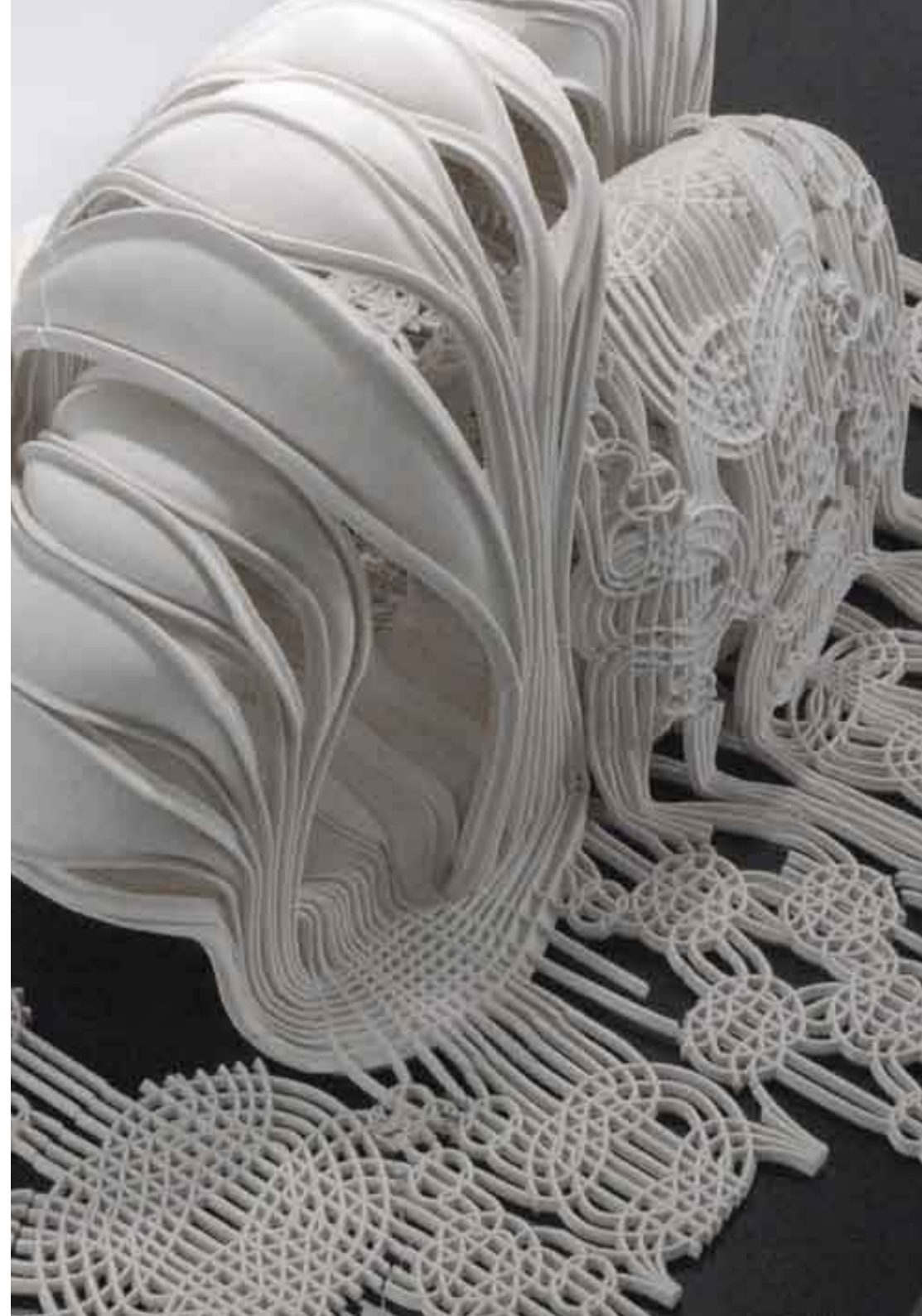
# Carpet House

Miharu Morimoto

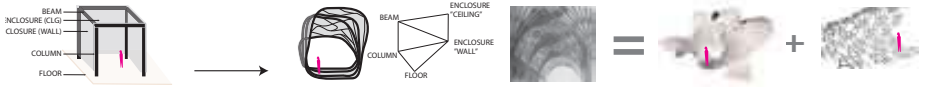
*"Hanging carpets remained the true walls, the visible boundaries of space. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for security, for supporting a load, for their permanence and so on. Whenever the need for these secondary functions did not arise, the carpets remained the original means of separating space. Even where building solid walls became necessary, the latter were only the inner, invisible structure hidden behind the true and legitimate representatives of the wall, the colorful woven carpets." Gottfried Semper, from Die Vier Elemente der Baukunst (1851).*

The Carpet House explores ways of creating a spatially aesthetic and yet morphologically flexible carpet: the very carpet that Semper acknowledges as an essential element in space creation, but more. Semper's carpets are conceptualized as paper-thin ornaments that require a separate structural system. But what if the carpet itself became the form of structure that would contribute to the aesthetic, sensorial qualities of the spaces? Through the inflating, bundling and widening of the woven threads of the carpet, the flat carpet can start to form not only walls but also vaults, columns, beams, ribs and self-supported screens. Using the textile techniques of macramé, this project extracts the underlying system behind the variable, morphogenetic growth of knotted surface and weaves a series of houses full of texture and sensation.

The continuous nature of textile techniques can create a gradual variation in pattern and form. This idea is translated literally into the houses' structural and aesthetic functions. Because of its system of continuity, its structure does not need distinguished elements, such as floors, columns and ceilings; rather, the forces can gradually transfer more efficiently from the ribbed vault to the bundled columns, stairs, and finally the grounded floor, in a way resembling the structural logic of Gothic cathedrals. These seemingly solid spaces are interwoven with lattice structures in the same, continuous system. The porosity of these latticed surfaces introduces filtered light into spaces and creates the contrasting phenomena of light and shadow.



# TEXTILE TRANSLATION



DEFINITIVE: FORMAL DISTINCTION OF FUNCTIONS

AMBIGUITY: GRADUAL VARIATION IN FORM AND FUNCTION

## 1. SELECT MATERIAL



### GENERIC STRING

- CONVEX HOOK
- CONCENTRIC PROFILE
- TENSILE STRENGTH
- NO COMPRESSIVE STRENGTH
- CHANGE DIRECTION BY BENDING AND TWISTING
- BENDABLE IN ALL DIRECTIONS
- TWISTABLE FLOBBY
- NON FOLDABLE
- NON STRETCHABLE

### PAPER STRIP

- CONVEX HOOK
- NON-CIRCULAR PROFILE
- TENSILE STRENGTH
- NO COMPRESSIVE STRENGTH IN THE DIRECTION OF STRIP-SOME COMPRESSIVE STRENGTH IN OPPOSITE DIRECTION
- CHANGE DIRECTION BY BENDING AND TWISTING
- BENDABLE IN ONE DIRECTION ONLY
- TWISTABLE ONLY GRADUALLY
- NON FOLDABLE
- NON STRETCHABLE

### SILK RIBBON

- CONVEX HOOK
- NON-CIRCULAR AND CHANGEABLE PROFILE BY FOLD
- TENSILE STRENGTH
- NO COMPRESSIVE STRENGTH
- CHANGE DIRECTION BY BENDING, TWISTING, AND FOLDING
- BENDABLE IN ALL DIRECTIONS
- TWISTABLE FLOBBY
- FOLDABLE
- NON STRETCHABLE

### PLASTIC TUBE

- CONVEX HOOK
- NON-CIRCULAR AND CHANGEABLE PROFILE BY STRETCH
- SOME TENSILE STRENGTH
- NO COMPRESSIVE STRENGTH
- CHANGE DIRECTION BY BENDING, TWISTING, AND FOLDING
- BENDABLE IN ALL DIRECTIONS
- TWISTABLE FLOBBY
- FOLDABLE
- STRETCHABLE

### WIRE MESH

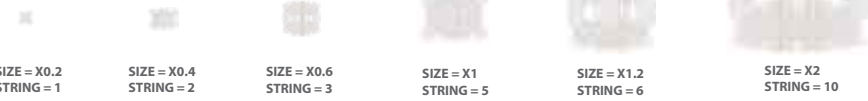
- CONVEX HOOK
- NON-CIRCULAR AND CHANGEABLE PROFILE BY EXPANSION
- TENSILE STRENGTH
- SOME COMPRESSIVE STRENGTH
- CHANGE DIRECTION BY BENDING, TWISTING, EXPANDING, AND CONTRACTING
- BENDABLE IN ALL DIRECTIONS
- TWISTABLE FLOBBY
- TWISTABLE FLOBBY
- FOLDABLE
- NON STRETCHABLE
- EXPANDABLE
- RETRACTABLE

## 2. SELECT KNOT

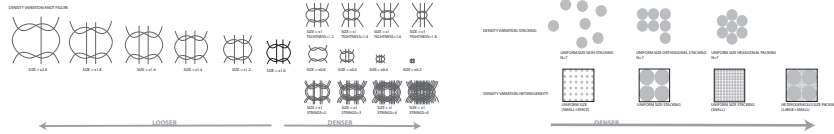


HALF KNOT  
HALF HITCH  
OVERHAND KNOT

## 3. SELECT FIGURES TO CONFIGURE



### CONFIGURING DENSITY



## 4. SELECT FIGURES TO INFLATE

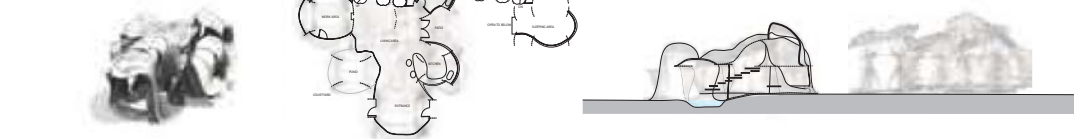


### ENCLOSING STRUCTURE: INHABITING A SQUARE KNOT

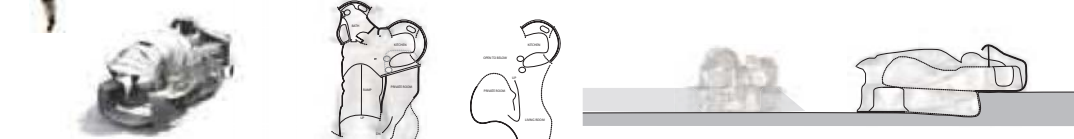


# CATALOG HOUSES

CLIENT A [w-s] house



CLIENT B [b-s] house



CLIENT C [h-s] house

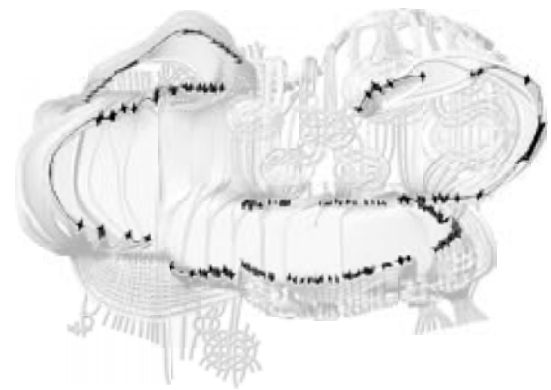


CLIENT D [b-multi] house

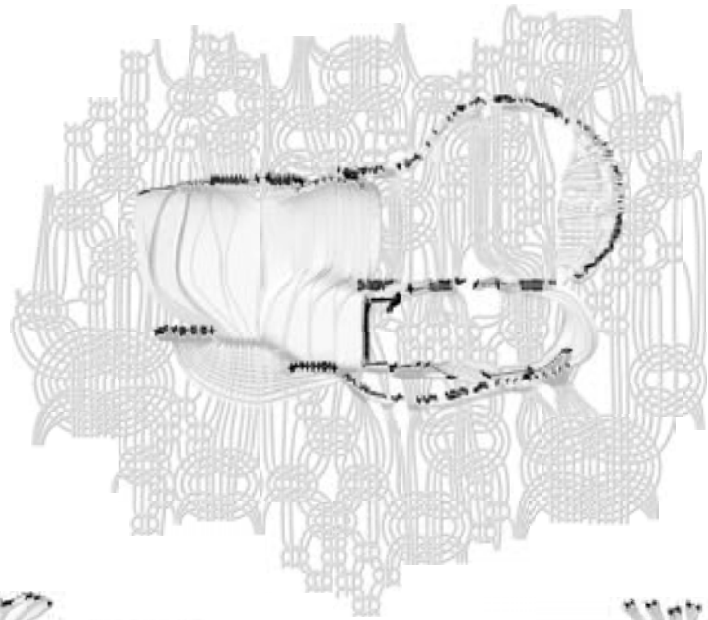


CLIENT E [h-l] house

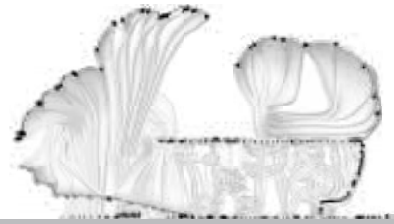




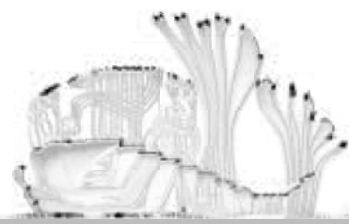
SECOND FLOOR PLAN



GROUND FLOOR PLAN

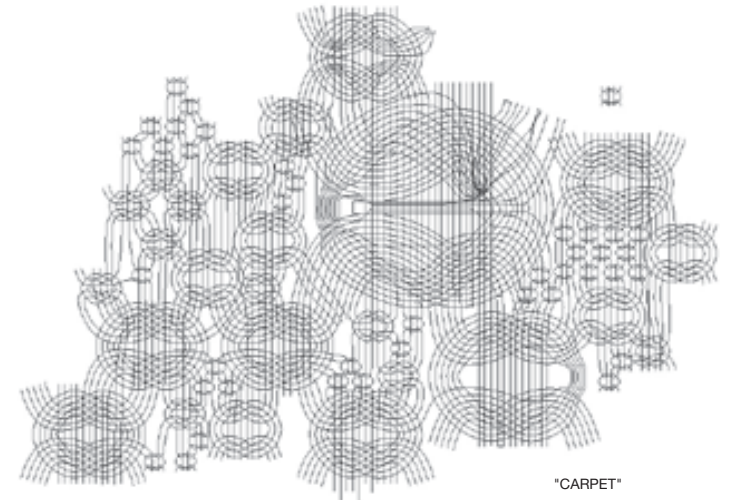


SECTION A



SECTION B

POCK HOUSE TYPE	POCK HOUSE SIZE	SMALL	MEDIUM	LARGE	CUSTOM: MULTI	CLIENT A	CLIENT B	CLIENT C	CLIENT D	CLIENT E
W	\$	LOFTS 2 STORES CONCRETE FRAME 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	LOFTS 2 STORES CONCRETE FRAME 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	LOFTS 2 STORES CONCRETE FRAME 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	LOFTS 2 STORES CONCRETE FRAME 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	NEED A PLACE IMMEDIATELY OUTSIDE A SUBURBAN AREA	NEED A PLACE IN THE CITY	YOUNG COUPLE NEED A PLACE IN THE SUBURBS	FAMILY NEED A PLACE IN THE CITY	OLD COUPLE NEED A PLACE IN THE COUNTRY
B	\$\$	CONTRACT LOT 4 STORES CONCRETE FRAME ROOF ACCESS 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	CONTRACT LOT 4 STORES CONCRETE FRAME ROOF ACCESS 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	CONTRACT LOT 4 STORES CONCRETE FRAME ROOF ACCESS 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	CONTRACT LOT 4 STORES CONCRETE FRAME ROOF ACCESS 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	W-S	B-S	H-S	B-multi	H-L
H	\$\$\$	FLAT 2 STORES SPACIOUS FLOOR PLAN 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	FLAT 2 STORES SPACIOUS FLOOR PLAN 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	FLAT 2 STORES SPACIOUS FLOOR PLAN 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	FLAT 2 STORES CONCRETE FRAME 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE 1 COMMON SPACE	\$\$\$	\$\$\$	\$\$\$\$	\$\$\$\$\$	\$\$\$\$\$
PRICE						LOCATION CONTEXT				
\$ ECONOMY    \$\$ MODERATE    \$\$\$ LUXURY						OPEN SPACE    COMMON SPACE    PRIVATE SPACE    MIXED    OCCASIONAL GUESTS    FREQUENT GUESTS    FREQUENT GUESTS				



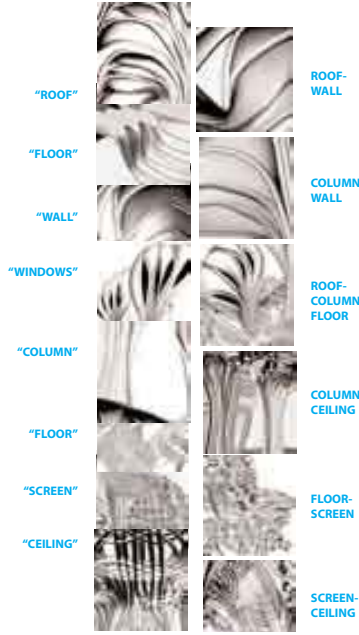
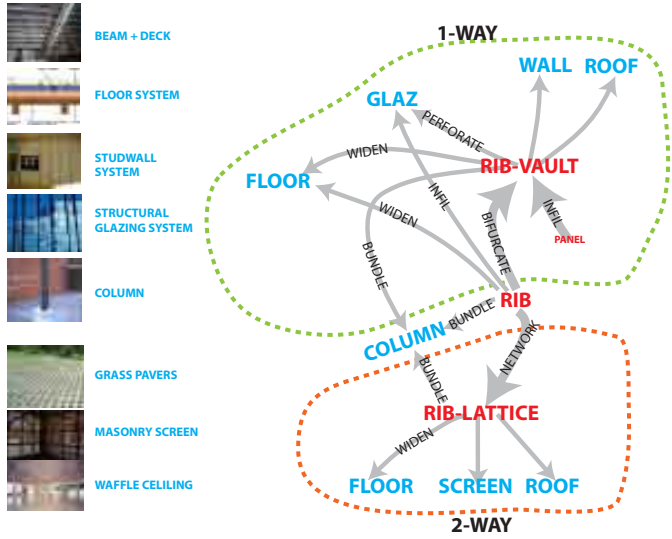
"CARPET"



# STRUCTURAL SYSTEM

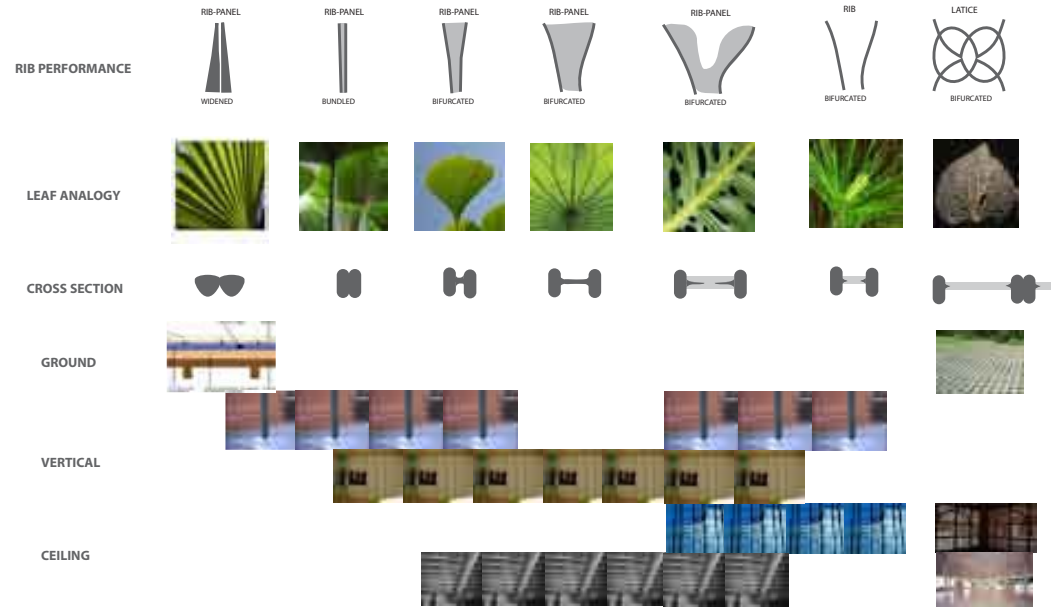
CONVENTIONAL VS RIB-VAULT-LATTICE SYSTEM

TYPES OF ENCLOSURE FUNCTIONS:  
 1. ROOF: PROVIDES THE COVER  
 2. FLOOR: PROVIDES THE GROUND  
 3. WALL: DIVIDES OR SEPARATES A SPACE FROM ANOTHER

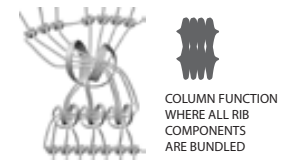


# STRUCTURAL SYSTEM

CONVENTIONAL VS LEAF STRUCTURE



# RIB-VAULT-LATTICE



A. ENCLOSING STRUCTURE  
 STRUCTURE THAT PROVIDES ENCLOSURE

C. TRANSITION FROM A TO B

B. STRUCTURAL ENCLOSURE  
 ENCLOSURE THAT IS SELF-SUPPORTING

