When the mind is actively and vitally at work, for its own creative uses, it has no time for word-building: words are too clumsy; you have no time to select and group them. Hence you must think in terms of images of pictures, of states of feeling, of rhythm. The well-trained, well-organized, well-disciplined mind works with remarkable rapidity and with luminous intensity; it will body forth combinations, in mass, so complex, so far-reaching that you could not write them down in years. Writing is but the slow, snail-like creeping of words, climbing laboriously, over a little structure that resembles the thought; meanwhile the mind has gone on and on, here and yonder and back and out and back again.

Louis H. Sullivan
Kindergarten Chats
Scarab Fraternity Press, 1934
THE ARCHITECTURE OF ESSENCES:
The Perception of Built Form, thus Space

by Michael D. McCarroll

25 May 86
TO MOM AND DAD FOR THE MANY YEARS OF SUPPORT IN MY ENDEAVORS. YOUR EARNEST
DEVOTION HAS MADE IT ALL POSSIBLE -- REGARDLESS OF THE CIRCUMSTANCE YOU HAVE
BOTH BEEN WITH ME.

MY LOVE TO YOU BOTH.

ME
15 . May . 1986

I wish to express my appreciation for the considerable help extended by various
students and faculty - the many hours of input, feedback, and just listening! A
special thanks to professors David Mackey and Jack Wyman for the interest,
guidance, and encouragement to investigate issues from new, creative vantage
points. To many close friends who were there with support, when I may have only
existed as mass. And you Karlee, though 200 miles away, for your understanding
and support of my intents.

HEM
Exactly what is the precedence of architecture today? A form evolves or creates a space; the actual emotional vehicle of architectural expression, SPACE, is then perceived. As a perceived phenomena it should be rich, powerful, and provocative, not simply the adaptation of shelter. I dare not contend its (shelter) significance, instead I search for that phenomena. Perhaps human emotion is such a means!

To experience architecture there must exist a perception - a phenomena which evokes spiritual thoughts and feelings. In addition, a work of architecture should arouse man emotionally, provoke thought and, in so doing, possess meaning. A means to achieve such an interpretation could be utilizing the stimulation of man's senses, for architecture only exists if man exists to perceive its presence of forms.
THE CONCEPTION OF ARCHITECTURE
The intent of this documentation is not an end in itself, but a continuing process which may never terminate. It represents the current progress of my academic endeavors. I entered my thesis year with the belief that - Thesis is the initial phase of a life long search for the meaning of architecture, in an attempt to discover what architecture should mean, what architecture means for people, and ways in which pieces of architecture reach their meaning. In short .... How do we encounter Architecture?

—THROUGH PERCEPTIONS—-

"We shall never cease from exploration and the end of all our exploring will be to arrive where we started from & know it for the first time."

T. S. Elliot
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"Creation in real space is impossible without an abstract study of form"..... "for form provides the only way to comprehend space"

Vladimir F. Krinsky

"the most fascinating aspect of the art (architecture) is its impact on people's lives, for this reason one cannot ignore ultimate meaning for mere aesthetic visual beauty"

Kenzo Tange

"The human body, which is our most fundamental three-dimensional possession, has not itself been a central concern in the understanding of architectural form; that architecture, to the extent that it is considered an art, is characterized in its design stages as an abstract visual art and not as a body-centered art"

Charles Moore

"Architecture should be seen not as a summary of totalities but rather as an open collection of fragments assembled to generate a legible text"

Carlo Scarpa
SIGNIFICANT PARALLELS OR POLEMICS
Grain elevators, silos, and agricultural structures all contain an overwhelming quality which is difficult to explain. My intrigue may partially be attributed to their plainness and utility of form. In addition, there exists no rhetoric to overshadow the honesty and premise for existence. Is it not fascinating that these forms are engineered from strict structural and functional concerns, while other concerns which qualify architecture are not considered? To experience a network of these forms is extremely provocative and constitutes an enriching emotional experience, which leads to a perception of architecture.
INHERENTLY INTRIGUED
In order to justify an idea worthy of nine months of investigation, I first had to determine my expectation of architecture. The aforementioned pages outline what I believe architecture to be.

The framework of my study evolved around the question, "How is a building imbued with meaning?" A variety of related directions exist, but I specifically concentrated on Perception of Built Form. Rudolf Arnheim suggests that power, richness and spirit of architecture are transformed through perceptions - which are the essence of architecture. Without this power we only have a "Dead heap of Building Materials". R.A. With this aside, I chose to deal with the perceptual characteristics of built form and their role in the conception of Architecture. Realize that perception is not only a visual encounter, but must encompass all forces which can impact the other senses.

With this as a premise, architecture becomes a vehicle of meaningful expression, not an approach relying on functionalism, formal games of composition, contextualism, or ornamental language as derived superficial meaning. The issue actually involves human response to built forms, and reference to human values as major design determinants.

The thesis is an offshore oil drilling and research unit, which are typically designed with little or no regard to human emotions and needs, but are equated with functionalization. Too often spatial context influences one's perception and design decisions, rather than the essence of the object itself. For this reason the orientation is such that the unit avoids any direct physical dependence on other built structures. The project will evolve and actually become the context, perceivable in and of itself.
THESIS IDEA: How Is A Building Imbued with Meaning? Through perceptions of Built Form, a constituent of SPACE.
Architecture, painting, sculpture, or for that matter all aspects of art are experienced or reviewed by a variety of individuals. Some favor the experience, some dislike it, and others are uncertain. Because of the variant audience, it's difficult to concur all the desires of every individual. In addition, one perceives and evaluates the work in their own autobiographical manner, consequently resulting in misinterpretations of the designers intents. As architects we have the option to ignore others' thoughts, but I don't believe this is appropriate either. A variety of issues comprise one's experience with architecture: form, color, texture, scale, context, aesthetics, space, etc., but I am concerned with a portion of the encounter — the principles which generate built form and perception of form.

MORALE and ATTITUDES are a direct and associated response to the environment with which they are confronted. I feel the essence of our man-made environment is contained and conveyed through spatial dynamics. Without the creation of space, architecture would not exist! Space is not only containment and volume, but a complex network of qualifiers. All of the qualities of architecture are transformed to man through a system of perceptions. The perceptions I am referring to are not only visual or two-dimensional aesthetic evaluations, but actually the realm of perception which deals with all forces capable of impacting our senses. Is it possible to create a sensory extension or opposition which makes a phenomena more perceptible?

As designers we must recognize that one's
In choosing a project type, I felt the need for significant relevance between the thesis idea and the vehicle of investigation which is an off-shore oil drilling and research apparatus. The project falls in what I categorize as "Futurist High Tech" environments, along with Space Stations, submarines, aircraft, etc. With the continued development of such facilities, which are highly secluded and dehumanizing environments, there exist the need for architectural consultation. I feel one crisis which exists with the design of these environments alludes to a theory identified with methodology, a specialized set of prescriptive rules concerned with technological values and heavily directed towards functionalization. In contrast, my project will be conceived from the idea that we are designing for humans; habitable, meaningful environments which in conjunction are still equally functional and efficient.

Another concern was the ability to explore and remain nonrestricted by context or complex functional and pragmatic reality. For these reasons the secluded ocean context and the inherent variety of components on the rig make for an ideal exploratory avenue.
THE CATALYST
(Production Apparatus)
IN SEARCH OF

Several interesting ideas were discovered through my research and a variety of parallels were investigated throughout the year, several of which became themes within the design process. I will further discuss these aspects in the actual design process section.
AN APPROACH — PROCESS TO DESIGN
**FALL**

Now that I can look back at this stage, I see that the absorption of such an overwhelming quantity of cognitive information simply is not possible through only reading. Only now can I see the benefits of the models and graphics as a supplemental means.

Perhaps this stage was inordinately conceptual or abstract, but I feel it will serve as a web upon which to extract various subconscious ideas which are now graphically conveyed. I see it as a stepping stone where if only one thought is continued or adapted, then it has been successful. The generation of new ideas from previous works is equally important. With this approach we soon extract ourselves from the conception of mere protective envelopes. Instead, we begin to consider how architecture is affected by concerns outside of building.

12-2-85

**WINTER**

It was during winter quarter that I decided to adapt a design approach characteristic of fragmentation. I chose to program and design various components of the rig separately and not be confined to an overall masterplan concept. The process allowed freedom to explore with each different segment, and no preconceptions carried over to the next component. The process was beneficial to this project since each pod actually evolved and became its own entity. Remember, I am referring to fragments or components assembled in a summation of order. (Fragmentary not discontinuity)

The components which I designed during this phase were required functional facilities (derrick, storage vessels, water treatment, etc.) and didn't contain any habitable spaces. This generated various problems. To look back it is obvious that the designs were more of an image or form study and not truly concerned with spatial quality. It is probably a product of the type of component involved, but I plan to overcome the problem in the segments which follow. As an approach, I am convinced of its validity, which has led to a variety of small projects each becoming the essence of what they are, and not overshadowed by some overall concept.

2-26-86
Spring break was spent in the Houston/Galveston area amongst a conglomeration of petrochemical facilities. The experience truly sparked my enthusiasm, thus disengaging the predestined apathy which sets in during February, according to former colleagues.

The entire quarter was spent designing various components of the rig, only this time each constituted significant habitable environments, not functional requirements alone. This aspect critically altered the final design results when compared to the solutions previously executed Winter Quarter. The advancement, sophistication, and overall quality of the third quarter work is apparent through the chronological sequence of components designed throughout the year. Here process becomes very important. Sequential in nature, the process allowed for critical analysis of all previous design solutions with the ability to discard negative outcomes or adapt new concepts. The resulting ensembles reject monotony in search of diversity and multiple readings. The exultant order of synthesis is achieved through perceptual characteristics of form and reconciliation of opposing forces. Can inconsistency breed vitality?

Presentation of the project will follow a reverse chronological order, since it is the final design solutions which encompass the entire spectrum of the thesis. Each segment is an occurrence of a particular rig component, explained through models, photographs, drawings, and excerpts from sketchbooks. Modeling was a marvelous design tool upon which I relied. In several instances I began a model before I constructed plans, elevations, sections, etc., and proceeded with only a few written thoughts and several pages of sketches. Basically, the approach was such that a rig component was designed then I quickly moved to the next phase. Occasionally I had several components being developed simultaneously. Consequently, each segment presented is a first evolution and hasn't been carried through design development.
COMMUNITY ORIENTATION THEATRE/CAFÉ

PRAGMATIC ISSUES:

- 80 - 100 occupants
- Initial point of arrival
- Used for training films, safety classes, corporate meetings
- Overlook the entire rig, becomes a reference point
- Work task/room accommodations are assigned during orientation meeting
- Ability to make visual reference to other rig components

During the initial conceptual phase I considered representing space with multiple reference points. Perhaps an influence of cubist paintings, where visual principles are experienced two dimensionally but are expressive of many vantage points. Here I explored the multiple and simultaneous perception of space/form.

- Built forms contact with forces of nature
- Allow outside phenomena to pervade into the form (a plane is not simply a restrictive boundary)
- Character of form expressive of internal works
- Construction discourse of the theatre juxtaposed against tenuous support methods of café - recollection of opposing forces enhances one's perceptions (synergistic)
- Quality of light/shadow and spatial dynamics (roof forms)
- Roof configuration - capitalizes on the ability of perceiving as many form components as possible from one viewpoint (internally and externally)
- Additional process and evolution is contained in the sketchbook excerpts
ORIENTATION THEATRE/CAFE PLAN
Explanations of terms: reference values, outside phenomena, 
scanning, are not collected multiple readings. 
Lack of consistency, mixed expressions 
are characteristic of the text.
FRYXELL FACILITY

PRAGMATIC ISSUES:

- Check in point
- Baggage storage
- Information center
- Sequential in nature and direct user to orientation theatre

When designing the facility, the first architectural space workers experience after arriving by boat or helicopter, the need for a tangible cohesive form existed. Although tangible, the form was manipulated to achieve evocation and curious perceptions in an attempt to evoke indirectly what is beyond the reach of direct description.

- Introverted volume which only permits strictly defined views, light penetration, etc. (circumvent the presence of the oil rig in an attempt to rediscover environment not alienate from it) it is not the rig but natural context which is expressive.
- Perceive not only contained space but implied natural space
- How form responds to conditions of the sea
- Perception due to reflected images
- Large scale mechanism is characteristic to oil extraction -- introduce mechanism at a smaller scale
- Wall as a usable volume, planes ability to coexist with attached platonic form
REGISTRATION FACILITY
HOUSING UNITS

PRAGMATIC ISSUES:

- Single or double occupancy
- Integrated throughout the rig
- Element of privacy
- Separate entries

The housing units are located along a wall (breakwater) which accommodates various recreational and service functions within. The presence of the massive wall offers the element of permanence which is critical in crew living quarters. Each unit can be hydraulically moved up or down the wall depending on sea conditions. Therefore, the wall constantly alters its appearance while each occupant manipulates their place within the composition.
HOUSING UNITS
SKETCHBOOK EXCERPTS
The remainder of the rig components can sufficiently be presented with sketchbook notes and photographs. The design and conceptualization of these components attributed to the adaptation of many issues which I explored while designing the previously shown components.
WINTER
COMMUNICATION POD

DERRICK
Technologically, a new era is dawning, which will combine all computer equipment, research data, and communication systems in a central location.

Monster will serve as a central node connecting all existing systems. It will allow for data exchange between various sub-systems of monster, as well as provide a secure environment for all communication.

As a result, we no longer need to use complex instrumentation and guesswork, instead, technology has simplified all steps, allowing for a significantly advanced machinery.

Separate cultures meet here, defined by...
CONCEPTUAL MODEL
Extraction of the most expressive and clarifying aspects study area for space or form which this has

- always forms an area, some portion of area or space (arrows) 
- learn to understand relationship of portions to each other 
- again this order implies simultaneous

'front view' as a comparison, but even more principally 
with a spatial theme

'suppose to develop more of theme, more to trace'

example: our own central theme and division from one block noted...
In closing -- through my architecture I want to evoke a provocative emotional response which must be transformed through perceptions of -- SPACE and FORM.
1. DRILLING EQUIPMENT

- BUNK: drilling operations (drill bits, shaft, etc.)
- COMMUNICATION APPARATUS: central, distant because of weight distribution, rotational motion
- ACCESSIBLE for deck—guide cables, pipe, etc.
- MOP SPOOLS:
- Drill cables, riser, pipes, etc., sections 100 feet or 1 day
- DRILLING HYDRAULIC:
- Limited amount, prime mode can be reversed after cutting and fastened
- HYDRAULIC boost system

2. CAVE TREATMENT

- SURGE TANK: temporary storage tanks, before storage treatment
- OIL/GAS SEPARATION:
- SAND FILTERS: remove sand after oil/gas separation
- WATER/GAS INJECTION: causes hydratons to travel vertically

3. DECK STORAGE

- DRUM CHEMICAL: in line
- Cement pumping (plug active with pump to production)
- STORAGE/LINE STORAGE:
- Cable, anchors, anchoring cable (boat)
- WAREHOUSE/SHOP:
- Repair allLEY equipment, tool shop
- May offer variety of activities to engage... no activity in

- WATER TREATMENT:
- Sea water filters
- Portable storage... (do you do pumping control circuits?)
- Watering water storage

4. UTILITIES/SERVICE

- PUMP GENERATION:
- Air, drilling, liquids, etc.
LIFE SUPPORT RECOMMENDATIONS

Crew Quarters:
- Single rooms

Dining Area:
- Seats 100

Cafeteria:
- Seats 100, perhaps a cafeteria style, seating 200

Recreational Services:
- Entertainment: 1 movie theater, games, sports

Cinema:
- Running films, safety classes, etc.

Recreation Room:
- Swimming pool, game room, etc.
- Eye doctor, gym, etc.

Laundry:
- Individual units, sink with hot water
- Kitchen, laundry, etc.

Hospital Facilities:
- Doubtful as - ?

Distant Support:
- Dental, medical, etc.

Kitchens/Facilities:
- Dining area

Recycling Area:
- Paper, plastic, etc.

Marine Engineer:
- Communications crew, monitor ships, etc.

Engineering:
- Sonar, pump rooms, etc.

Administrative:
- Control room, central control room, etc.

Safety Provisions:
- Lifeboats, safety suits, etc.
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RESOURCES: OIL UNIT TECHNOLOGY

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