SHOREVIEW ISLAND RESORT

AN ARTIFICIAL ISLAND THESIS PRODUCTION

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THE PRELUDE....
DEDICATION

I would like to dedicate this book to my wife, Jan and my parents, Don and Vera for all their help, patience, understanding and support during the last six years. Without them this would all be meaningless.

CREDITS

Credit for this thesis book goes to my classmates, professors and my mom for all their help and guidance in the production of this thesis.
PREFACE

This book is the accumulation of approximately nine months worth of work. The design solution is by far not the best solution, but tends to comply with the concepts that I created in the earliest stages of the project. At times this book may seem lengthy in the written word category, but it is for myself that all this documentation is here--it gives me a sort of diary of the last nine months so that I can refer to later in my life. The main thought I want to get across to the reader of this preface is that when you do your thesis pick something fun that you want to do....and in disagreement with Dean Bob Fisher....this is going to be your thesis not the College's....you are the one who has to live with what you do, the College just puts it on the shelf to collect dust until some semi-interested party wants to look at it.
THE BEGINNING....
INTRODUCTION

Deciding on what to do for your thesis is probably one of the hardest decisions you'll have to make in your five years in architecture school. I thought of doing a fire station, a hotel, a restaurant, a sports facility, and a skyscraper. However, something kept telling me to do something a little out of the ordinary. Why not do something that virtually nobody has done? Why not do something that will be fun? I picked the site as Chicago because I was from that area and felt it was an exciting city. And then finally one day Professor Dave Hermansen was showing a city plan of Chicago by Daniel Burnham and my thesis project was conceived.

"The Metropolis is an addictive machine, from which there is no escape, unless it offers that, too..."(1)

His view really prized

CHICAGO (AP) — In a city where an apartment with a view of the lake and skyline is a prized commodity, Stirling Bemis has two rooms and what may be the best view of all.

He lives in a lighthouse offshore.

Lake Michigan boaters passing by wave and call out greetings to Bemis, who is often seen on the deck of the nine-story Chicago Harbor Lighthouse he rents from the U.S. Coast Guard.

On weekdays, Bemis commutes in a 21-foot Long Island clam boat to his landlocked job as an advertising salesman for Good Housekeeping magazine.

When the weather gets rough and the water choppy, Bemis instead heads ashore in his "rubber ducky," an 8-foot inflatable raft originally designed for World War II commando forces.

Bemis, a lifelong sailor, moved into the 63-year-old lighthouse in 1960. He learned in 1978 that the lighthouse was to be automated and the four resident Guardsmen removed, and it took him 1½ years to convince the Coast Guard to grant him a lease. He won't discuss its terms.

"I love it here," Bemis said. "I can't imagine living any other way."

The joys of lighthouse living just offshore the nation's second-largest city include sunrise-to-sunset views of the city, solitary walks along a 1½-mile breakwater connected to the water-bound home, and evening meals of perch caught from the deck.

But the watery, humid surroundings also mean Bemis must annually repaint the two rooms he lives in, and shut his ears against the 115-decibel blast of the foghorn.

Until he can insulate one room in the lighthouse, he is forced to return to land for the three or four coldest winter months.

The Coast Guard says Bemis' residence at the lighthouse has greatly reduced vandalism and deterioration to the beacon.

"It's been a very desirable alternative to boarding it up and walking away," said Capt. James Sullivan, Milwaukee station commander of the U.S. Coast Guard group.
PROPOSAL

When I was looking at Daniel H. Burnham's Master Plan of Chicago, I began to think about the man that lives in a lighthouse off the Chicago lakeshore. "In a city where an apartment with a view of the lake and skyline is a prized commodity, Stirling Bemis has two rooms and what may be the best view of all," wrote the Chicago Tribune in an article devoted entirely to Bemis' rental of the lighthouse. Why should he be the only person enjoying this view? Why not provide a place for anybody that wants to get away from it all and not be that far away? The end result is my thesis project—an artificial island resort and leisure center. By locating itself in the water, the resort will enhance, emphasize and realize the view of Chicago and create an aura of relaxation and pleasure for the visitor.

This is the lakefront apartment of a Chicago advertising man.
The first question that comes to your mind is...why? There are several practical reasons for designing an island resort. First, we reclaim an area of the Lake that can be used for more than just a section of boating area. With this reclamation, we can create a better recreational facility out on the lake. Next, an extension of the city into the lake can be a worthwhile economic investment for the city. This idea of extending into the lake is already proposed for the World's Fair in 1993. If I were to be as realistic as possible, I would assume that my resort would be the beginning of a chain of islands that could work their way out into the Lake and thus create a small chain of islands that works for the city. The last consideration deals with master plans already developed of Chicago. Hundreds of master plans have been proposed but never been built. Thus, my thesis project, being on a smaller scale, may spawn some more creativity and development of downtown Chicago out into Lake Michigan.
I have several personal reasons for doing an "artificial island" thesis. First, I wanted to do a project that was challenging. With a challenging situation, I tend to work harder to meet that challenge. Also, I wanted to do something unique. Another reason is that an artificial island yearns to be self-sufficient; therefore, by making my island self-supportable, I will learn more about different mechanical systems that this building must have. Lastly, I wanted to do something I thought would be fun, for this is my thesis.
THE SITE.....
GENERAL VICINITY - CHICAGO AND LAKE MICHIGAN

As stated earlier, I picked Chicago for the general site because of its magnificent skyline view. The island will lend itself to obtain such views as described by the following quote. "It is worth taking one of the excursion trips which leave from just below the Michigan Avenue bridge, if only to gain access to such lovely aspects of the Chicago skyline, which is split into almost equal parts by the river. You may see the Equitable Building, and to its right, the Wrigley Building and the Tribune Tower, which eye each other across the Magnificent Mile. Immediately to the left of the Equitable, and identifiable by the rapier-like television towers, are the twin piles of Marina City, one of Chicago's many architectural wonders."(2) The passage, being a little out of date, doesn't even mention two other prominent skyline buildings, the Hancock Building and Sears Tower, which I feel have as much impact from a distance as up close. In conclusion, the site would not only give someone a beautiful view of Chicago but also might suggest having escaped from all that congestion and urbanization of the city.

"The designer can find beauty by making use of what is actually there: mountains, rocks under the changing sunlight and cloud shadows, the glows of sunsets and sunrises."(1)
Another strong reason for picking Chicago to have an island resort is the fact that people don't tend to swim all that much on Chicago beaches in the summertime. This enables the island to create its own swimming environment for a good reason. "In Chicago, there is a strong belief that on hot days the water feels freezing cold only by contrast with the furnace blast of the air. The facts are that when it is really hot in Chicago the waters of Lake Michigan at the Chicago beaches are much colder than normal. When the temperature climbs into the nineties in Chicago the heat wave usually rides in on the wings of a strong, dry, steady southwest wind. The wind blows the surface water onto the eastern shore of the lake and deep, icy water moves upward and westward to take its place on the beaches. The greater the heat wave the stronger and more persistent are the winds, and the deeper and colder the water that slides up onto the beaches." (3) The main advantage of this deep water effect is that it reduces the need for air-conditioning. As the water evaporates, the air will be cooled, and this is enhanced by the fact that the hotter the day the colder the water; therefore, they can work hand in hand. To top it off, the wind becomes stronger and more steady with the heat wave, so the possibility of using wind energy would be a good idea for the air-conditioning power load.
Marketability is another reason for the location of Chicago. My client, Club Med, has locations in many parts of the world. Chicago has many things to offer and Club Med wants to take full advantage of the city. The midwest is highly urbanized and thus is an opportune place to create an island "escape" resort. Refer to the client section in The Program for more information on Club Mediterranee.
SPECIFIC SITE SELECTION

The specific location of the site has many underlying reasons. Being slightly to the north of the downtown area, the site has a southern orientation for the viewing of Chicago. This south view enables the building to take full advantage of any solar gain through the windows that will be needed to obtain the view. Direct solar gain will have to be important to establish feasibility of the site for the cooler months. This direct solar gain could easily be plenumed to spaces that require more heat.

Once again, marketability plays a key role in the specific site selection. The north part of Chicago has a much higher income than the southern part; therefore, it is only common sense to cater to those who have money, because they are the ones more likely to have the means to "escape". This idea also relates to the accessibility feature of the site in relation to the city.

The specific site also takes into the account of the water depth. Being in 24 feet deep of water, it stays away from the large shipping area to lessen the chance of any collision with large tankers—that is also why the site is only a mile from shore, if it were out any farther it could more readily be in the way of a north to south shipping lane.
If a land connection were made with a monorail system, the monorail would take advantage of the concrete breaker that is already established along the south side of the peninsula at Lincoln Park—this is positive because it would not impede on any of the sand beaches and does not conflict with the lake currents already established by the city of Chicago. The client does not want to have a monorail at this time for several reasons. First, if the island is connected by a monorail is it still an island? Second, if the island is so easily accessible, would the idea of escaping be as strong? Finally, the Client wants to try to see how popular the island will be on a trial basis. The client has thus decided to have the transportation to the island in the form of a ferry system, a helicopter or possibly a hydrofoil.

Finally, the specific site does give us and incredible view of the Chicago skyline for it is not too far and not too close.
SITE ANALYSIS

CLIMATIC INFORMATION

Precipitation - Rain/Snow
Precipitation is well distributed throughout the year and the Chicago area has only about a 3% variation in precipitation from year to year. Approximately one-third of the days in the year have some rain or snow activity; however, there are fewer days in the summer. Heavy fog occurs on the average of one day each month. The average amount of precipitation per year is 32 inches and the snow average is 33 inches per year. The total amount of days in which some precipitation occurs is an average of 124 days; this figure breaks down into 59 days of snow and 11 days of fog.

Wind Data
The strongest winds in the Chicago area are near the lake. Winds are strongest in the winter, coming from the northwest and occasionally from the northeast. The strongest winter wind ever recorded averaged 65 MPH and came in from a northeasterly direction. Summer winds are lower in velocity and alternate from on shore and off shore directions. Summer breezes from the southwest come off the lake and are very cooling. The breeziest portion of the day is the afternoon. The winds from the southwest and generally constant with an average of about 11 MPH. Nights are usually very calm.
Temperature Data
The ambient air season in Chicago runs from late April to early October. The maximum sun elevation occurs in June when the sun reaches an angle of 71 degrees. The lowest elevation is 25 degrees and occurs in December. The sun shines for an average of 2647 hours per year which breaks down into approximately 117 clear days, 120 partly cloudy days and 128 days of no sun. Seventy-two percent of the days are sunny but only forty-two percent of days have sun. The sun only shines for an average of three hours per day in winter and it is not uncommon to go an entire month with no sun. There are an average of 109 days per year with temperatures below freezing and 34 days when the temperature goes above 90 degrees. The average cold weather temperature is 32 degrees and the average warm weather temperature is 64 degrees. Note, these temperatures are taken from shore; therefore, these temperatures should be a little cooler in summertime and a little warmer in the wintertime.
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FEASIBILITY

Climatically, the location of the resort is very feasible. By using the sun and southern orientation to its fullest effect, the amount of heat loss out on the lake could become somewhat insignificant in the cooler months. Air conditioning is no problem because breezes and water evaporation from the lake. Humidity could be the worst problem to deal with; however, with cross ventilation, the humidity could be reduced greatly. Another site consideration is the water depth. The water is only 24 feet deep at the site and could rise to 30 feet maximum. Other weather considerations can be handled through the structure (surely Lake Michigan is not as harsh as the North Sea). Winds can be expected to increase to an average of 13 to 14 MPH out on the lake and the idea of using the wind as an energy source is looking stronger and stronger. The island is also going to consider its ecological environment by not being landfill but by being a platform-type with minimal effect upon the environment. Other considerations are mentioned on the site analysis drawings.

Seasonal and Record Lake Levels
Data from U.S. Lake Survey, Upchurch, 1973
EROSION FACTORS

Some of the following data shows how erosion effects landfill or beaches. It is important to mention that the southern part of Lake Michigan suffers from some serious erosion problems—specifically on the east side of the Lake. Thus, as the designer, I've considered the possibility that the island could have a beach, but because of the erosion factors and cold water factors that it would be in the best interests of the client and the users to have a non-landfill island.

Circulation patterns for Lake Michigan for: uniform wind stress from the south only(left); and uniform wind stress from the west only(right) (from Murty and Rao, 1970)
Generalized profile across typical beach and nearshore area of Lake Michigan. The low water beach profile is typical of an aggrading beach such as during 1962-1965 when lake level was below normal. The high water or erosional profile is more typical of recent conditions.
Glacial till members on Lake Michigan bottom
(from Lineback and Gross, 1974)

Glacial till thicknesses in Lake Michigan
(from Lineback and Gross, 1974)
POSSIBLE MONORAIL CONNECTION (FUTURE)
BUILDING TO CONTEXT RELATIONSHIPS

A vertical building counteracts with the obvious horizontality of Lake Michigan. Verticality should be de-emphasized where the building meets the lake to better relate to the site. A horizontal emphasizes the lake. Possibly a combination of both horizontality and verticality would be the best in the building imageability.
BUILDING TO CONTEXT RELATIONSHIPS

THE WIND TO BUILDING RELATIONSHIP IS A MAJOR FACTOR OUT ON LAKE MICHIGAN. DEPENDING ON ITS SHAPE, THE BUILDING CAN INCREASE WIND FLOW THAT OCCURS THRU OR AROUND IT. STRUCTURALLY, THE WIND IS A STRONG LOAD THAT CANNOT BE OVERLOOKED.
BUILDING TO CONTEXT RELATIONSHIPS
CONCEPTUAL DEVELOPMENT OF PLATFORM ISLAND
DUE TO CONTEXT

The reasons for a platform island are because erosion around southern Lake Michigan is severe and humidity levels are high.

Mechanical area acts as a buffer in case of high waves.

Air passes underneath island to lessen the humidity.

Average high of lake level

Columns for structural support have less impact on environment.
BUILDING TO CONTEXT RELATIONSHIPS
VIEW ORIENTED CONCEPTS DUE TO CONTEXT

VIEW TOWARDS DOWNTOWN CHICAGO

NORTH

30°

PLAN

SUPPORT FACILITIES FEED INTO VIEW ORIENTED FACILITIES
CONCLUSIONS AND CONSIDERATIONS

The site has set up several parameters for design. First, it gave us a view—a specific view—to orient the building towards a specific area. Second, it gave us two systems to design by—solar and wind energy. The sun is not as prevalent as it may seem, but using the wind to power the building may be the strongest parameter yet. Thirdly, the site creates a platform island because the erosion factors for a landfill beach is too costly and not nearly as feasible. Lastly, the site is close to the shore to avoid shipping lanes and hopefully far enough to create an "escaped" feeling. The site seems to meet all the basic requirements and has also set up some limitations to design by. All the previous information enhances all these decisions or parameters. In conclusion, without these limitations, this island resort would be totally organic and would grow, with very little order or purpose.
THE PROGRAM....
CONCEPTUAL GOALS

Imagery
The single most important concept of my island/building is the imagery it must convey; it must create enjoyable feelings to the users both consciously and unconsciously. The value of the image of the exterior is to be different from the interior. The exterior image has to convey two general meanings and several specific meanings in its appearance. The two general ideas are "escape" and "fantasy". The escape idea comes across easily with the island form itself. The fantasy idea has to combine specific images and ideas to obtain its goal: 1) a resort image, 2) a futuristic "castle" image, 3) a high-tech, structural image, and 4) a lighthouse image. The interior should convey the word "Mediterranea" or "utopia" in most respects, especially the atrium space. The spaces should relate to their activity but once again in a futuristic and fantasy notion. The competitive atmosphere of the health club should be downplayed so the idea of "good sportsmanship" can be stressed. All interiors should please and delight the senses as much as possible. In conclusion, all images should present feelings of gaiety, relaxation, pleasure, warmth and awe.

"An architectural work can be seen as a collection of information so ordered and unified to perform in a certain manner; it is GOAL ORIENTED, it is there through deliberate choice and it is a system because the information is managed in a hierarchic form and its mechanistic systems correspond to the same hierarchies or systems." (1)
Another strong image concept that I'd like to employ is the idea of timelessness. "We often use the word timeless to describe images. Possibly we use it most frequently to characterize a valued expression or quality in an image that does not seem tied to any particular time or place. Awareness of the passage of time and anticipation of the future are ingredients in some of the most affecting of human realizations; the consciousness of timelessness—that is, of feelings that seem to transcend the time in which an image was made—is one of the impressive effects of images." (2) This timelessness emphasizes the feelings stated earlier; however, a "futuristic" image does express time in some way. The successful building should do both. Maybe the following is what I'm trying to achieve: "Another way of looking at the problem of time and timelessness in an image is to consider the more abstract pattern of its design. In a successful work of art, the pattern of the whole conveys a feeling that essential relationships exist between the data in the image and the world beyond the image. The result is a feeling that there is something important to be unraveled in the manner in which the pattern in the image is connected to the world." (3)
Scale
Scale is an important issue. The building must appear grand in scale to obtain some of its imagery and human in scale to adhere to its users. The grand scale will exist in the overall form of the building and its spaces. The human scale will try to "evolve participatory emotions."(4) It will "act in concert with other data in an image--data that might be present in materials, objects, shapes, or spaces--to encourage a sense of shared human experience."(5)
Unity

Unity is a design element I have always had trouble achieving. Because of the many different types of spaces, unity will be hard to achieve in this building; therefore, I have to set a strong conceptual goal for a unified project. Dominance, harmony, and proportion are three aspects of unity that my building will have. "The aspects for Unity contribute collectively to a satisfactory visual whole. They should not be seen as a check list, but rather as a number of interrelated requirements the importance of which is partly subject to individual preference and greatly influenced by other principles of design."

Dominance is an important part in unity—having one thing dominate tends to lend unity to the design. Harmony can be referred to many things in design: color, tones, texture, and direction. Proportion is important to three-dimensional harmony and relates once again with human scale. All three aspects of unity have to be used together and I intend to use them to achieve the desired unified building for my thesis.

In the search for unity, one must know the elements of unity. I've already mentioned some of the elements, but here is a complete list: texture, color, tone, direction, solid and void, and form or shape.

With some of the concepts decided, we can begin to make decisions.
DECISIONS....

The island resort is to be open 8 months a year (March thru October) and will then be connected by a ferry for people who don't have their own boat and will have a marina for people who do own a boat. If the island becomes extremely popular, a monorail and more facilities will be added.

The island is to be a platform-type island to reduce the ecological impacts that landfill islands tend to have. Also, the amount of land required for a beach is a large amount--refer to research on waves and erosion. Erosion on the southern part of Lake Michigan is fairly severe.

The island is to be approximately 1 mile offshore for an adequate view and to create the feeling of being away from it all. Also, by being only 1 mile offshore, the island is fairly safe from large shipping routes.

Gambling is to be allowed on the island for more marketability for the resort because it would be far enough offshore to allow for gambling through a special ordinance that Club Med will achieve.
The island is to be mechanically or systematically self-sufficient with emergency backup systems from the mainland. The sewage system is on its own. Electricity and heating will be either active (photovoltaic) or passive solar system.

The food is to be delivered by ferry almost everyday—no food is grown or reproduced on the island.

The resort is NOT a convention hangout. Club Med resorts do not cater to the convention world and therefore no convention space is needed. Club Med markets itself to specific singles or married adults and in this case it will be no different. Because of the gambling facilities on the island, the age limit on the island is 21 and over. It's not that Club Med doesn't like children, the atmosphere is more oriented to the adult.

The owner of the resort is to be AMEXCO (American Express Corporation) and thus is a Club Mediterranea resort.
GENERAL GOALS

Because there are no other buildings to relate to, my building should relate to its surrounding environment; therefore, a certain amount of horizontality should occur. (Could it be the dominant factor for unity?) Another idea is that the building could appear to grow out of the water much like Mont St. Michel. Whatever the desire, the building should look as if it is suppose to be an island.

Having seen no program or building similar to mine, my building should have an identity all its own.

Having no other surrounding structures, the design solution shall be self-reliant and self-sustaining—the occupant will be expected to require nothing more than what is available at the resort.

A clear circulation pattern should occur—a visual understanding of the circulation should be seen from major spaces.

Because this building will be viewed by the people of Chicago, it must have a powerful, clear, and imaginative appearance. (This can easily be related to the imagery mentioned earlier.)
Strong landscaping goals are important to create a good blend of soft-textured surroundings with the hard surfaces.

Another goal is to satisfy individual requirements for the tourist such as: tranquility and rest--facilities for entertainment and sport, anonymity (but also the opportunity to meet other people and participate in the social activities of the resort) seclusion and privacy with the benefits of security and close proximity to a variety of leisure and recreational facilities.
THE CLIENT......

Club Mediterranee is the largest of the travel clubs in this country. It offers a vacation plan and facilities which are especially appealing to the sportsminded. In 1970, some 226,000 people vacationed in its 17 ski, 35 summer and 8 all year villages. American Express is a major stockholder in the club.

The first Mediterranee village, one established on the island of Majorca, in 1950, was a back-to-nature facility, with sleeping bags, and members taking turns to help cook and wash the dishes. The original concept was that people wanted a vacation environment radically different than that in which they live their daily lives. Informality was the village feature—no telephones, radios, or newspapers.

Sports equipment and instruction are part of the all-inclusive price which includes sailing, water skiing, scuba diving, and spear fishing at the warm-water resorts. Ski instruction is included as part of the rate at the 17 ski resorts maintained by the club. Riding, yoga, judo and fencing instruction are offered at some of the villages.
French Cookery, with unlimited wine service, characterizes the cuisine. A no-cash economy—only drinks at the bar and personal purchases are paid for, and these by beads which are worn around the neck. No tipping is allowed. Rather than employees, there are "gentile organisateurs," literally "pleasing organizers," so-called working members who mix freely with the guests. As such, these working members do not conflict with local labor laws, of with laws excluding expatriate employees.

In 1966, the Club became a publicly owned company and launched its Western Hemisphere operation with headquarters in New York City. In 1971, the Club numbered 32,000 American and Canadian members and had Western Hemisphere villages in Guadalupe and Martinique in the Caribbean, Moorea near the island of Tahiti, and Acapulco, Mexico.

To vacation at any of the Club resorts, membership in the Club is required but membership is open to all and can be arranged through any American Express office or travel agent.
To broaden its horizon, Club Mediterranee is seeking to build a resort in Chicago for convenience to the people in the Midwest and to seek that unprecedented view of Chicago. With the 1993 World's Fair being in Chicago, Club Mediterranee wants to market their resort to be an architectural achievement for all to view and a wonderful resort for anyone who wants to enjoy the fascinating city of Chicago.

All information on Club Mediterranee is from "THE TOURIST BUSINESS".
MARKETABILITY

BASIC REASONS FOR INCREASED TRAVEL AND RECREATION

Increased Income
Personal income has been increasing every year, even though current inflation has slowed this rate of growth. Disposable income, which is one of the keys to travel growth, has also increased each year. Real family income has doubled in a generation. Although many people in today's society complain of high taxes, increased inflation, and other things the average family still has more discretionary or disposable income today than they did five or ten years ago.

Mobility
Americans have placed a high priority on the development of excellent streets and highways. The availability of streets, highways, freeways, and the comforts of the modern automobile have all contributed to the increased travel and tourism that we see today. Accessibility plays a large part in the popularity of the tourist areas. Indeed, the automobile and the freeway have put remote vacation and recreation areas within the reach of most of the nation's population.
Urbanization
The desire by many who live in urban areas to escape to the country has contributed to the increase. Over 80 percent of the population within the United States now lives in what the federal government considers urbanized areas. As millions of people continue to live in cities and metropolitan areas, the pressure and the desire to escape, even for a day, when combined with a means and the funds to do so produces strong motivations for tourism and travel.

Education
Studies have shown that as education of the head of the family increases, the desire to see new things and new places also increases almost proportionately. The level of education is increasing each year in the country. Likewise a proportional increase in the amount of travel can be expected by persons in these categories also.
More Leisure Time
Although the 40-hour work week has been standard for 10 or 15 years, many companies are experimenting with four-day, 35-hour work weeks, extended vacations, more three day weekends, and other work schedules which have produced considerable additional leisure time. Many of the marketing techniques today center on the amount of time that can be saved, rather than on the job that the product will do or its low cost. Increases in leisure time contribute significantly to increases in travel and tourism.

Technology
The Rand Corporation indicates that with present technology by the year 2000, one quarter of the population could be producing all the goods and services required by the other three quarters. Although in some quarters it is suggested that individuals must work to have good mental health, the industrialization and technology has indeed produced a leisure society, and probably will continue to do so in the future.

All the preceding information was obtained from the book "PRIVATE AND COMMERCIAL RECREATION: A TEXT AND REFERENCE".
The users of this island will be much like the users of a cruise ship. They will come here for relaxation, enjoyment, enchantment and excitement. The employees and the vacationist will have a chance to live on this island from a minimum of a weekend to several years. Seeing that this is a Club Med resort, the recommended length of stay is about two weeks and the ages allowed to vacation on the island is no younger than 21. It is an adult paradise, not a kiddieland and will market and cater to the adult world. The simplest way to show the users is to list them in an outline form as follows.

"Out of the dreaming past, with its countless legends of steaming and boiling seas, and gleaming moving glaciers; mountains that heaved and moved upwards; suns that burnt; emerged this creature...Man. The latest phase in a continuous and continuing process that stretches millions of years before him back to the beginnings of life and back beyond even that. His is the heritage of all that has ever lived; he still carries the vestiges of snout and fangs and claws of species long since vanished; he is the ancestor of all that is to come. We should not regard him lightly...He is you and I."(7)

I. DIRECT USERS
   A. In House
      1. Home office
         a. Oversee initial design, internal organization and initial operations
      2. Director
         a. Oversee overall operations of complex
         b. Acts as administrative head for all departments
      3. Manager
         a. Supervises employee activities
         b. Organize operations of assistant managers
4. Assistant Managers
   a. Oversee various detailed operations such as food and beverage, banquets, organized cruises, entertainment and supply coordination.
   b. Must be provided with support area including secretaries, files, and communication.
   c. Must be accessible to the public.
5. Secretarial pool
   a. Must relate directly to the administrative areas.
   b. Access to a small lounge is necessary.
6. Staff
   a. Maids
   b. Maintenance
   c. Porters
   d. Bellboys
   e. Bartenders
   f. Dealers
   g. Casino related staff
   h. Cooks
   i. Waitresses
   j. Busboys
   k. Receptionists
   l. Desk Staff
   m. Bookkeepers
   n. Accountants
   o. Instructors
   p. Health Club Staff
   q. In-house repairmen
   r. In-house doctor
   s. Security
7. Small Merchants
   a. Hotel employees or private businessmen
   b. Commercial Sales
   c. Banking
B. Direct Users
   1. Vacationist
      a. Diverse interest
      b. Maximum use of areas
      c. Use of interior space – food service, entertainment, and recreation
      d. Consideration must be given to structuring activities in such a way as to accommodate users of different ages (21 thru 60+), backgrounds and languages
      e. Leisure, relaxing activities
      f. Active activities such as swimming, fishing and other sports
II. Indirect users
   a. Garagemen
   b. Mailmen
   c. Food Supply
   d. Liquor Supply
   e. Repairmen
   f. Laundry
   g. Money transfer
   h. Entertainment
   i. Developers
INFLUENTIAL BUILDINGS

It is difficult to do a building-type analysis on an artificial island thesis project. What makes it even more difficult is the size and the function of the island. Most large-scale water projects are entire cities or aquatic floating museums and laboratories. However, my thesis is just a medium-sized resort--sort of a stationary cruise ship. Also, my earliest concepts stressed the importance of imageability that should not really imitate any particular building-type. Feasibility was enhanced with the research of such building-types as the "Aquapolis" by Kiyonori Kikutake and "Ontario Place" by Eberhard Zeidler. The hardest task was using other architecture to get an idea of what type of image my building should take. To list all the buildings or architects' work that I looked at would be an impossible task. However, I can give you a small list of influential architects that I used throughout the design thesis. Some of their philosophies or ideas from their architecture could be influential in just bits and pieces while others have larger impact to different areas of design. After the list of architects or architectural firms are some reproductions of some influential buildings.
Influential Architects

Kiyonori Kikutake ("Aquapolis")
Ebhard H. Zeidler ("Ontario Place")
Metabolist architecture and architects
Arata Isozaki
Kenzo Tange
Peter Cook
Buckminster Fuller ("Triton City")
Eero and Eliel Saarinen
The firm of Arquitectonica
The firm of Skidmore, Owings and Merrill
Helmut Jahn
All architects that had any unbuilt design work in the 1933 Century of Progress Chicago World's Fair.
The firm of Venturi and Rauch
Oscar Niemeyer
John Andrews
Youji Watanabe
Sachio Otani
Junzo Sakakura
Erich Mendelsohn

Megastructures-by-the-Sea
Just an Intriguing Idea

Since we've been having an ear-shattering conversation on this subject, which happens to be three-quarters of the world's water, and since one tenth of that water is shallow, and since we're talking these days about desalination and the harvesting of fish and other commodities from both the sea and its floor, why not incorporate ashore cities? London's Milton Keynes and Paris's La Defense have turned out what seems the first practical step in this direction. Its Sea City, an offshore island in glass and concrete, would be a permanent home to some 30,000 persons.

The committee had a project ready for 30 years, but the structural and engineering techniques required do not exist today, the committee says.

The committee cited a number of promoting shallow areas (including this country's Martha's Vineyard) but chose for the location of Sea City a site 15 miles off England's east coast.

The committee's architect, Hal McKee, and his engineers produced plans for the design and construction of a sea city which, the committee said, would be "economically viable and provide all the facilities of a mainland town in a warmer, healthier environment than would be possible on land."

Sea City's main structure is a 10-story amphitheater supported by piles and protected on the seaward side by an encircling breakwater. The main structure encloses a lagoon with clusters of floating, man-made islands. It is broken only at one point, the southeast corner, to provide a narrow harbor entrance. The city radiates 4,000 feet north to south and is 2,000 feet across at its widest point.

Concrete on Piles: The scheme has piles brought by barge from the mainland driven into the seabed in rows 20-30 feet apart to form the base for the superstructure. Reinforced concrete decks are used to protect the superstructure and are jacked up on guide rails between the rows of piles. The sections are then located in position at the top of the piles.

The superstructure, beginning 30 feet above sea level, is composed of concrete cells joined together at the corners. Each cell is prefabricated on the mainland and transported to the site in bottomless barges, then jacked into position over temporary ramps and mounted on spacer units.

The spaces form gaps above, below and on both sides of each cell, which are used as ducts for gas, water, electricity and sewage.

Clusters of floating islands in the inner lagoon are made from triangular concrete piers 60 feet wide and held in position by anchor chains. Limited by flexible couplings to allow water movement...

[Continued on page 124]
Aquopolis being hauled to the exposition site after completion.

Horizontal and vertical movements of mooring.

120. Plan of residential buildings: a. residential space; b. public facilities; c. play area; d. school; e. shopping area; f. car-park; g. railroad station.

A Plan for Tokyo. Aerial view of model for residential area.

Model of residential units to be located on Tokyo Bay.
In the first chapter of the book, ‘Ocean City’, Kikutake presented his proposed ‘Tower Shaped City’, and ‘Marine City’, which developed from his basic concept of ‘ unwara’, according to which he planned a new city metabolism developing through the three stages of ‘movable equipment’, ‘movable house’ and ‘mova-block’ (movable city).

M.I.T. early project for residential units.
Plan. Super-structure for artificial land

Sketch of projected design for central area of city. Helix structure is linked with transportation system of city.
SEATEL

Designed by J. Dahinden, the Seatel is intended to be mounted 70m off the Greek coast just south of Athens. It is built inside a reinforced concrete shaft which is separated from the supporting inflatable ring by a set of roller bearings. The bearings allow the main structure to remain stable during rough weather while allowing the inflated ring to move with the waves.

The seatel can accommodate 310 persons, contains a 200 seat restaurant, conference rooms, night club with dance floor and a swimming pool. The structure is 75m across at its largest diameter and 15m above the water. It is connected to the shore by two pontoons which form a small bay with a private beach for swimming. A third pontoon acts as a jetty.

It seems unfortunate that the design should be so introverted in such a location, only paying lip service to the sea, its main commercial asset and raison d'etre.
Casino qua non

A preliminary design scheme for a brief and costly Atlantic City facility displays Venturi & Rauch's homogenized theme applied on a grand scale.

Venturi & Rauch were hired as architects to design a large gambling casino and hotel in Atlantic City. It seemed like the perfect location. The once glitzy New Jersey resort is learning from Las Vegas in its attempt to bring economic prosperity to a seaside city now flooded with advanced hotel options.

When it was learned that Venturi & Rauch were hired as architects to design a large gambling casino and hotel in Atlantic City, it seemed like the perfect location. The once glitzy New Jersey resort is learning from Las Vegas in its attempt to bring economic prosperity to a seaside city now flooded with advanced hotel options.

Venturi & Rauch's design scheme was a preliminary concept for a casino and hotel facility that incorporated elements of Las Vegas design, including a prominent entrance with a large, illuminated sign.

Despite Atlantic City's decline in recent years, many of the resorts in the city still reflect the glitz and glamour of their heyday. The casino project proposal, presented with plans for a large-scale casino and hotel complex, was met with skepticism, as the city's casino industry had suffered significant losses in recent years.

The proposal included plans for a large hotel with numerous gaming areas, including an outdoor pool area and a separate entertainment complex.

However, the project was ultimately scrapped due to financial difficulties and a lack of interest from potential investors. The city's, once vibrant casino industry, had struggled to attract new customers and maintain its popularity in the face of competition from other resort areas.

Casino revenues had fallen significantly, and the city was facing a difficult economic situation. The casino project was seen as a last-ditch effort to revitalize the city's economy, but it was ultimately unsuccessful, and the proposal was abandoned.

In conclusion, the proposed casino project in Atlantic City was a promising idea, but it was ultimately unsuccessful due to a combination of factors, including financial difficulties and a lack of interest from potential investors. The city's casino industry had struggled to maintain its popularity in the face of competition from other resort areas, and the project was seen as a last-ditch effort to revitalize the city's economy, but it was ultimately unsuccessful.
Tetrahedral city model, Triton City