ETTENBÜRGEN SCHWEIZER HEILBADER

A THERAPEUTIC RECREATION CENTER  ETTENBÜRGEN, SWITZERLAND

SUSAN E. YEAMANS

COLLEGE OF ARCHITECTURE AND PLANNING
BALL STATE UNIVERSITY
MUNCIE, INDIANA

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THESIS: PROJECT BOOK

TITLE

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It is the intent of this brochure to show both the process and the schematic design for my project attempted this year. The project is a therapeutic recreational center in Central Switzerland.

During my travels in Europe in the summer of 1983 I became interested in developing a project for the Lake Mem area. The sloped site allowed for a challenging project as did the building type. It is the intent of the signer to gain practical knowledge of health spa facilities/resort/hotel and to develop ideas into schematic design with the site, functional requirements, and user needs.

I would like to thank the following for their help in preparing this thesis proposal:

My critics: Professor Charles Daniel Woodfin 404, 405
Professor Stan Mendelsohn 404, 405
Professor Jack Wyman 406

Outside Critics: Professor Tim Quigley
Randall F. Peacock

Landscape Critics: Les Smith, Omar Fraque

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Swiss Federal Office of Topography
Swiss National Tourist Office

I would also like to thank Heidi Podalaski for all of her help in translating German and my parents for their moral support.
While traveling in Europe I saw many beautiful sights. The hills between the Rhine and Moselle Valleys, the many gardens at the palaces in Trier, Versailles, Florence, and many cities such as Nice, Rome, Venice and Vienna are only a sample of these.

Hidden away in valleys surrounded by cliffs or ice lie the 1,484 lakes of Switzerland. Lake Lucerne is among the most beautiful. Surrounded by Lucerne and many other picturesque smaller towns and a winding shoreline the lake has much variety. It twists and turns and is fringed by lush greenery, dense forest, and cliffs which account for its beauty.

Lake Lucerne has become one of the leading tourist areas for Central Switzerland. Even in earlier days the people of society came in summer seeking health. Now everybody enjoys the area. Lucerne sponsored the latest Paris fashions paraded on wooden bridges. Today, the quaint towns and beautiful landscape form the setting, and among this a Terapeutic Recreational Center is to be built.

A therapeutic center is a complex that combines landscaped nature and restfulness with cultural, recreational and sports facilities, and it provides a highly developed social life. Earlier examples of these can be seen in the Roman and Turkish baths, British health resorts, and the many health spas that were located in the United States.

The emphasis is to relax and rejuvenate oneself while staying at the facility. A common ailment for going to a health resort is to overcome "manager's disease." Relaxation can be enhanced by providing parks, gardens, sun terraces and other leisure activities. Also views, daylighting and scale can add to the sensation.

Another main source of leisure will be provided by the staff. Their emphasis will be placed on service. Upon entering the complex, one's car will be parked for him and the baggage will be taken to his room. One will be free to do what he pleases. Room service will be available.

Three groups will occupy the building—hotel guests, daytrippers, and employee/service personnel. The hotel users will be adults from the upper middle and higher classes from the surrounding areas of Switzerland, Germany, etc. At the hotel there will be set check-in and check-out days. The length of stay will usually range from one week to three weeks, and the facility will be open year round. Other guests using the spa facilities will be those who come and pay for a single day.

Many recreational activities will be provided. Guests may participate in swimming, tennis, and ice skating as well as hiking on fitness trails through the woods. The facility itself will have swimming pools, saunas, massage...
facilities, exercise/weight rooms, etc. In close proximity to the site are winter and summer skiing resorts. By taking a shuttle boat or one's car, one can go to nearby Lucerne to enjoy many activities including Spring and Autumn festivals.

Four components make up the complex. They are the entry/parking/registration area, the therapeutic building, the hotel, and future expansion of waterfront activities.

The entry and parking for guests is located on a road at the middle section of the site. An enclosed train will be the connection with the therapeutic center above.

The incline train will have enclosed cars run by electricity on a track. Two cars will run simultaneously opposite each other to offset one another. This is more efficient, since friction in the pulley is all that needs to be overcome. A split in the track will allow them to pass.

The therapeutic center and hotel will be located at the higher levels of the site providing good views down the meadow and across the lake towards the Alps. A link to the woods at the apex over to the other cliff side is also possible. The building will step down the hillside accommodating the slope and providing for balconies and terraces.
During antiquity public bathing establishments with pools, steam baths, and dressing rooms were known in Sparta. These types of baths became popular in Greece and later spread to Rome.

The Moslems carried the traditions of the Roman bath to the Turks, but they did not have the Roman refinements. Later, the Turkish bath eventually developed.

After the fall of the Roman Empire the bathing establishments declined. However, in the thirteenth and sixteenth centuries they became popular again after the Crusaders discovered the Turkish baths. The popularity lasted until the seventeenth century when they became centers for debauchery and infested with disease.

During the nineteenth century the bathhouse reappeared in Europe. These were called Russian baths also known as steam baths and were simply places where everyone bathed together. Roman baths which used hot, dry air came into prominence again in the middle of the nineteenth century. From the Roman baths evolved the concept of the modern health spa facilities which are utilized in health resorts today.

Modern health spas are prevalent in many areas including Switzerland and Germany. They are resorts which combine restfulness and nature with therapy, recreation, and a highly developed social life.

As in ancient times, spas have been thought of to help cure certain ailments. Today spas and climatic resorts are classified on the basis of what disorders they help to treat. In Appendix I, a breakdown of specific treatments which are provided at different resorts are shown.

The cure facilities provided by the different resorts are selected on the basis of several factors including the specific medical specialties in the area and the altitude of the resort. Sunshine and a relaxing environment also provide an atmosphere to aid in improving one's physical and mental health.

Users:

The users of the building consist of hotel guests, daytrippers, and employee and service personnel.

Hotel guests: The hotel consists of 100 beds. The guests will come from areas around Switzerland and Germany. Many will come for specific treatments, but the goal is to attract not only people needing treatment but ordinary visitors. These guests will be in the upper middle and high class economic status. The majority of the people will be between the ages of thirty and sixty. The guests coming to the hotel will stay for two or three weeks. In this manner there will be set check-in and departure days from the hotel. In Appendix I some sample health spa vacation packages are shown.

THE SUBJECT AND CONTEXT
Devtrippers: These people will come from the surrounding area and will arrive using mass transit. They will be able to purchase a ticket which allows them to use various cure treatments. Figure 1 shows various prices of cure treatments.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral bath</td>
<td>Fr. 6.- to 12.</td>
</tr>
<tr>
<td>Saline bath, according to salt content</td>
<td>Fr. 9.- to 17.</td>
</tr>
<tr>
<td>Mud or Fango (depending upon treatment)</td>
<td>Fr. 10.- to 35.</td>
</tr>
<tr>
<td>Solar bath</td>
<td>Fr. 12.- to 26.</td>
</tr>
<tr>
<td>Compress</td>
<td>Fr. 7.50 to 73.</td>
</tr>
<tr>
<td>Inhalations</td>
<td>Fr. 5.- to 16.</td>
</tr>
<tr>
<td>Massage, part.</td>
<td>Fr. 13.- to 31.</td>
</tr>
<tr>
<td>Massage, full</td>
<td>Fr. 24.- to 53.</td>
</tr>
<tr>
<td>Underwater jet massage</td>
<td>Fr. 14.- to 37.</td>
</tr>
<tr>
<td>Traction of lumbar spine</td>
<td>Fr. 8.- to 31.</td>
</tr>
<tr>
<td>Medical visit</td>
<td>Fr. 40.- to 100.</td>
</tr>
<tr>
<td>Thermal Swimming-pool</td>
<td>Fr. 6.- to 12.</td>
</tr>
<tr>
<td>Gym (med.) single person</td>
<td>Fr. 13.- to 53.</td>
</tr>
<tr>
<td>Gym (med.) in groups</td>
<td>Fr. 5.- to 23.</td>
</tr>
<tr>
<td>Medical baths</td>
<td>Fr. 10.- to 32.</td>
</tr>
</tbody>
</table>

Further treatments and drinking cures according to local rates.

Figure 1 - Prices of cure treatments

Employee and Service Personnel: These people will live in the surrounding area. Most of them will arrive by mass transit. Limited parking spaces will be provided. Facilities including showers will be available for their use.
Project Goals:

1. The building will adapt to the surrounding environment.
2. The building will address the local architecture of the area in building materials, etc.
3. The facility should be functionally organized providing a well run building while at the same time creating a nonsterile environment.
4. Pollution should be eliminated from the area, but the facility needs to be accessible.
5. A good connection link needs to be established between the therapeutic center, hotel, and waterfront.
6. The facility should allow for future expansion.
7. The facility should be accessible to the handicapped.
8. The facility should not only attract people needing treatment but members of their families as well as ordinary visitors.
9. The emphasis is placed on a pleasant environment. This can be enhanced by views, daylighting, scale, etc. and this should include areas such as parks, gardens, sun terraces, and other places which create a relaxing atmosphere.
The site is located at $8.5^\circ$ longitude and $47^\circ$ latitude in a German speaking region of Central Switzerland. It is approximately twenty five minutes by car from Lucerne. The nearest town, Ennetbürgen is two kilometers from the site. Through this town one has access to the train or the autobahn.

Many recreational activities are prevalent in the area. Since the area is surrounded by a lake, among the most common activities are sailing, swimming, and fishing. Boat rides are also a common activity. The rides are for sightseeing and recreation. For example, dinner boat cruises are very popular on the lake.

The water is also used for transportation. Shuttle boats connect many of the surrounding villages with Lucerne. It will be proposed that a shuttle boat be connected with the area along the lake front. This will bring a larger number of dayguests to the building.
The area is surrounded by the Swiss Alps. These contain winter and summer skiing resorts which are accessible via the autobahn.

Festivals are also frequent in Lucerne in the fall and winter and in the surrounding areas.

While many recreational areas are prevalent in the area, not many spas and climatic resorts have been developed here. Burggenstock, a climatic resort, is nearby but does not offer the facilities that this building will offer. Therefore, this area would be a good location for a building of this type.
This site is ideal. It is located 550 meters above sea level and is on a south facing slope of the peninsula in a fairly undeveloped area. It is bordered by a nationally protected forest. Many hiking trails are already established within it and a connection with them from the building is highly suggested. To the east of the site, the hill slopes down to the lake. Good views from the building are provided, since this land is a meadow. At the lake front there is the possibility of further development. This could include a promenade, lakefront cafe, shops, etc. However, no other development should be located on the perimeter of the therapeutic building proper.

Access for the site will be located at the lower part of the hill. A train will connect to the hotel. In this way, the therapeutic center will be free from pollution of autos and will be secluded.

The climate of the area is temperate. For example, the annual mean temperature is 9° (48°). January mean is 1.8° (35°), July mean is 16.5° (62°). Annual range is 14.7° (59°). The prevailing wind comes from the north. Storm winds known as the fohn comes from the south.
Site merits and Demerits

The sloping side will be beneficial and suggests a terraced building. This is desirable since it will provide more opportunity for sun terraces, good views, and contact with the outside environment, all of which are necessary for a therapeutic resort. The roofs can be used for recreation, resting terraces, sun bathing, and places to dine. The only disadvantage is that more money will need to be spent on site work for cutting and filling. A goal of the design is to minimize this and accommodate the slope.
EVALUATION OF OPTIONS

1. LINKED PAVILIONS

2. LINEAR MEGASTRUCTURE

3. CLUSTER
**Concept #1 - Linked Pavilions**

**Advantages**
- Good view from higher elevation.
- Cars separated from therapeutic center.
- The hotel is in a private zone away from it all.

**Disadvantages**
- The spa has to be located directly in the center for the tram to work.
- It is a big effort to go from the hotel to the spa.
CONCEPT 2 - LINEAR MEGASTRUCTURE

ADVANTAGES
- Since the spa and hotel are linked horizontally, it will be much easier to get back and forth.
- Only two depot stations are needed. This allows that the buildings can be located as required.
- The hotel is still remote.
- Good views are seen from the higher elevation.
- The building is separate from the cars.

DISADVANTAGES
- Contact with landscape, nature, and courtyard is not as permeable.
- Outdoor concourse spaces are not as available to be integrated with the building.
Concept #3: Clustered Pavilions

Advantages:
- Maximum amount of space is provided for courtyards & concourse spaces.
- Buildings fit into the topography.
- The spa and hotel are linked horizontally, it is easier to get back and forth.
- Only two depot stations are needed so one can locate the building were necessary.
- The hotel is fairly remote.
- Good views are seen from the higher elevation.
- The building is separated from the cars.

Disadvantages:
- This arrangement will be more expensive.
**MAIN LOBBY:**

Shops - (5) - sell magazines, tobacco, etc. 25 m²
Waiting area
Phones
Restrooms
Circulation

The main lobby is the first place the guests will arrive when they come up the escalators from the train depot. In the main lobby will be the registration desk, a cafe, various shops, waiting area, restrooms, phones, escalators, and the elevators.

Once every two weeks on specified days the hotel guests will be checking in so the lobby needs to hold these guests. Also daily dayguests will come, so security will have to be provided to see that these people pay.

**Administration:**

<table>
<thead>
<tr>
<th>Role</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Director</td>
<td>18 m²</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>12 m²</td>
</tr>
<tr>
<td>Dietition</td>
<td>21 m²</td>
</tr>
<tr>
<td>Food and Beverage Manager</td>
<td>18 m²</td>
</tr>
<tr>
<td>Secretarial</td>
<td>18 m²</td>
</tr>
<tr>
<td>General Manager</td>
<td>21 m²</td>
</tr>
<tr>
<td>Executive Assistant Manager</td>
<td>18 m²</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>18 m²</td>
</tr>
<tr>
<td>Executive Secretaries</td>
<td>18 m²</td>
</tr>
<tr>
<td>Machines and Storage</td>
<td>25 m²</td>
</tr>
<tr>
<td>Reception Desk</td>
<td>18 m²</td>
</tr>
</tbody>
</table>

**Hotel Administration:**

<table>
<thead>
<tr>
<th>Area</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Deposit Box Area</td>
<td>9 m²</td>
</tr>
</tbody>
</table>
Hotel Administration (cont.)

Executive Assistant Manager 18 m$^2$
Secretarial 9 m$^2$
Work Room - Reservations Office, Count Room 16 m$^2$

Baggage Hold:
Provide a space off the service elevators on each floor for baggage to rest before it can be taken to the individual rooms.
Service Elevators and Receiving Area (4 floors) 168 m$^2$
Restrooms, firestairs, elevators 150 m$^2$ x 4 500 m$^2$

THERAPEUTIC CENTER

Changing Rooms: To enter into the changing rooms one needs to go through a checkpoint.

Pools
Wave pool - Water storage tanks are required to be located at one end. Seating around pool is necessary.
Water Foyer - Area allows people to participate and wade in the waters. Fountains and landscaping will be provided.
Mineral Baths - These smaller pools will be used with reservation only.
Lap pool - This pool is to be located off of the medical clinic and massage areas. The wave pool and lap pool both need a guard, first aide, storage area.
Adequate lounging area is required.
Pools must be adjacent to changing rooms

Inhalation Room
Reading Room
Resting Terraces
Sana - Men's and Women's - Both contain dressing rooms

Massage:
This area needs to be adjacent to the medical facilities.
A whirlpool will be adjacent to the massage and used in conjunction with this treatment.

Medical Clinic:
  Reception area
  Examination Rooms
  Doctor's Office
  Waiting Area
The reception area will have file storage and an area for a nurse and a secretary.

Education Facilities:
  Class room

Weight Facilities: There will be an exercise room adjacent to this which will be used for aerobics classes.

Billiards:
Several pool tables will be provided. These will be located in the snack bar area.

Housekeeping:
  Janitor's storage

Mechanical:
Filter rooms and hot water storage tanks need to be located near the pools.

FOOD AND BEVERAGE:
Cafe (off lobby) 237 m²
The cafe has a terrace facing south down the hillside.
Cafe (cont.)

Satellite Kitchen
50 m$^2$
(237 m$^2$)

This is accessible to the main kitchen by an elevator.

Three meal Restaurant:
400 m$^2$

Satellite Kitchen
75 m$^2$

This will serve both the hotel guests and the day guests to the spa.

Ballroom:
525 m$^2$

Includes a 16 m$^2$ projection room and a 70 m$^2$ stage. A 24 m$^2$ preparation room is also included off of the service elevators. Behind the stage are two dressing rooms 14 m$^2$ each, a restroom 6 m$^2$ and a storage area 45 m$^2$
79 m$^2$

Snack Bar:
60 m$^2$

This is located in the area of the pools. Seating areas are located in the landscaped room overlooking the water foyer and the wave pool.

Casino:
800 m$^2$
A coatroom will be provided adjacent 20 m$^2$, and a storage room 20 m$^2$ is also off of the casino. The casino looks onto a terrace.

BACK OF THE HOUSE FACILITIES:

Train Depot:
660 m$^2$ (inc. circulation)

Room for arrival and departure of people and supplies to the complex. The room will be zoned for hotel guests on one side (this area will break up further for those arriving and departing) and baggage and supplies on the other.

Escalators and elevators will be provided for the guests and will be readily accessible. Baggage storage will be located in very close proximity to the train until it can be taken to the rooms by service elevators.

A receiving area for the kitchen will also be provided in very close proximity.
Receiving Area: 100 m²
Location for arrival of baggage and foodstuffs and the removal of trash. A storage/staging area (secureable) 46 m² will be adjacent.

Trash Room 25 m²
Storage Room 46 m²

Housekeeping:
Executive Housekeeper 12 m²
Assistant Housekeeper 18 m²
Uniform Issue 18 m²
Lost and Found 8 m²
Equipment Issue 18 m²
Work Room 54 m²
Secure Storage Sections (2) 45 m² each 90 m²
Night Cleaner’s storage: This area needs independent access from housekeeping 18 m²

236 m²

Employee Locker Rooms
A locker room for 48 female and 48 male employees with normal toilet and shower facilities will be required.

30 m²
60 m²

Laundry:
Soiled linen area 12 m²
Work Area 100 m²
Storage: Detergent, etc. 5 m²

117 m²

This area should be located with housekeeping and a service elevator should be accessible.
Maintenance and Engineering:

<table>
<thead>
<tr>
<th></th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Engineer’s Office</td>
<td>10</td>
</tr>
<tr>
<td>Maintenance Secretary</td>
<td>10</td>
</tr>
<tr>
<td>Storage</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

Mechanical Room

<table>
<thead>
<tr>
<th></th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300</td>
</tr>
</tbody>
</table>

Kitchen:

It shall include a bakery, food storage (dry and refrigerated), beverage areas, chef’s office (9 m²) and chief steward’s office (9 m²). Dietary menus will be provided. Room service will also be available and access to the service elevators will be needed for this.
HOTEL:

The accommodations will consist of 189 beds and will also include special suites.

A tentative breakdown of the guest rooms is as follows:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>Square Meters (total rooms in each area includes balcony space)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Single: Room includes a closet and restroom. A balcony will also be included.</td>
<td>1,122 m²</td>
</tr>
<tr>
<td>53</td>
<td>Double: Room includes a closet and restroom. A balcony will also be included.</td>
<td>3,922 m²</td>
</tr>
<tr>
<td>22</td>
<td>King Size: Room with hospitality bar, closet and restroom. A 10 m living area will also be included.</td>
<td>1,958 m²</td>
</tr>
<tr>
<td>1</td>
<td>Manager's Apartment: One living/dining room with full kitchen and a half bath. A full bath will also be provided. A single with additional closet space and one double bedroom. A balcony will also be provided.</td>
<td>336 m²</td>
</tr>
<tr>
<td>5</td>
<td>Linen Storage: 6 m² per floor</td>
<td>30 m²</td>
</tr>
<tr>
<td>5</td>
<td>Janitor's Closet: 6 m² per floor</td>
<td>30 m²</td>
</tr>
<tr>
<td></td>
<td>Lounge Space</td>
<td>448 m²</td>
</tr>
</tbody>
</table>
Approach and Philosophy

Many factors were involved in the approach taken during the design process. The most obvious factor is to have the building adapt to the surrounding environment. The building being in a very prominent location needs to be harmonious with the hillside. This was carried out by using a horizontal solution instead of a vertical one. The building would be able to pick up on the horizontal lines in the environment. This can be emphasized by broad overhangs with parapets and terraces.

Another way to make the building harmonious with the hillside is to use terracing. Site sections were studied to design the building in such a way to lessen the amount of cutting and filling needed. Terracing the building will make it less expensive to build. Stepping the building down the hillside allows the roofs to be used as terraces for various activities. In the hotel, terracing provides for balconies off of the hotel rooms while also providing shading in the summer from the sun.

The emphasis of a therapeutic recreational center is to allow the visitors to relax and rejuvenate themselves. Therefore, a pleasant environment is desired. It should be noted, however, that the goal is to create a pleasant environment which would be fun to visit. A sterile institutional environment is not desired. Keeping in mind that visiting a health spa is a fun way to rejuvenate oneself, activities such as the wave pool, the water foyer, ice skating, etc. were added. Views, daylighting, and scale enhance the facility. Gardens and sun terraces also create a relaxing atmosphere. Detailing such as overhangs provide for shadows which give the appearance of being playful as opposed to institutional.
Emphasis is also placed on interior and exterior relationships. The building is articulated in such a way as to create outdoor spaces for various activities. The building was wrapped and stepped in a pinwheel fashion creating a space for the exterior pool, sunbathing area, and exterior dining. Landscaping will also be used to define this space.

The building attempts to address the local architecture, not so much in that it is built in a vernacular style, but that it picks up elements of the vernacular. This can be seen in the choice of building materials and methods. This is important mainly from the standpoint of economy and aesthetics. For example, a concrete structure is used in the building instead of steel since steel is very expensive in Switzerland. In the hotel bearing walls are used separating the hotel rooms. These walls are constructed of two layers of concrete blocks placed side by side with insulation and a vapor barrier in between. This double block wall construction is for the purpose of insulation and noise control.

Several elements of the vernacular have been utilized. As was mentioned earlier, balconies will be used. This is advantageous since the Swiss love to be outside. The balconies also can serve as overhangs to provide sun shading. Awnings are also frequently used for this and can be pulled back in the winter when direct sun is wanted. They also add a sense of color to the building.
The main organizing elements of the building are provided in the use of the diagonal structural grid and the circulation paths. The use of the skylights allow for a sense of orientation and provide an organizing element on the exterior of the building to bring it all together.
Methodology, Design Processes:

The design process involved four stages: The inventorial stage, analysis stage, evaluation of criteria stage, and synthesis stage.

The inventorial stage included collecting material about existing health spas, climatic resorts and hotels and collecting information about the site. To study the health spas the writer read many articles about spas. A foreign student, Heidi Popalaski, was hired to translate information which was written in German. The American Embassy in Switzerland, the Swiss Embassy in Washington, D.C., and the Swiss National Tourist Agency in Chicago provided information. The federal office of topography in Switzerland assisted this writer immensely by sending information about the site, including topography maps, information about the soil, vegetation, site access, etc.

Once this information was collected the writer made appointments with several professors in the physical therapy department at Ball State University. We discussed what facilities would be required of a therapeutic center. From this information and building type studies a process of developing a programming summary was begun. An analysis of the site was commenced and conceptual ideas of the site plan and the building were developed. One of the main concerns involved how to terrace the building to allow it to fit onto the slope. The geometry of the building, organization, massing, daylighting, systems, etc. were also considered. From all of this information the writer conducted design development and synthesized this material. An architectural vocabulary evolved through evaluation, critique, and redesign.
After analyzing the site it was realized that the best location for the building was higher up on the slopes. The area near and on the waterfront is a public area. The location higher up the slopes is more private which would be more ideal for the building. A goal of the project is to locate the building in a secluded area away from pollution, etc. In this manner visitors can arrive by shuttle boat, bus, or auto to the waterfront where a variety of activities can occur. Then he can take an incline train up to the building or walk up. An outdoor amphitheater and gardens can be located along the way up for those who want to refresh themselves. A train stop can also occur for those who don’t want to walk as far.

The supplies for the building will be brought up in special compartments in the train, since only a steep narrow road which is not feasible goes up the hill now.

The location higher up the hill provides for better views and will have an access to the woods and the cliffs on top.
During the term of the project many architectural concepts evolved. The main organizing element in the building is the circulation path with the skylight above providing light in the corridor. The circulation path provides for an adaptability of plan and a flexibility of multispace. The structural grid is arranged on the diagonal. This provides for elongated hexagon shapes. These shapes were developed to allow for large areas of pools to fit together and terrace down the hillside.

Nodes were developed to provide areas of choice. They also allow for vertical circulation. The two nodes in the therapeutic center provide for a sense of orientation inside the center. On the exterior of the building, the nodes act as focal points for an entry and provide more variety in the roof line.

Kiosks were used in the therapeutic center providing for various facilities to be located inside a larger space.
Design Narrative

The functional requirements, organization and zoning of the proposed building were studied. The great hall was placed in the center of the building to provide for a transitional zone between the therapeutic center and the hotel. It also helps to balance the massing of the building. Following this, naturally, the train departure area is underneath. This allows for one to leave the train, ride up the escalator/elevator and arrive in the great hall and at the registration desk. Having the building organized in this way allows for back-of-the-house facilities to be located in direct access to the train. This will allow for the baggage to be able to be taken to the rooms efficiently. The receiving area will also have direct access to the train. The kitchen, mechanical room, housekeeping, and employee facilities will be in very close proximity.

Once in the great hall various features are available. The receiving desk, shops, and a cafe are in direct relationship. Other facilities such as meeting rooms, a restaurant, a ballroom, and a casino are at higher levels in the great hall. These are accessible by an escalator system or elevators. Fire stairs and restrooms are also accessible.
A main kitchen in the lower level is connected by a dumbwaiter into satellite kitchens on upper levels. Service elevators also connect the administration and receiving rooms on upper floors. Housekeeping is located underneath the hotel.

From the great hall to the left is the hotel. The therapeutic center is to the right. These are separated since it is desirable to keep non-hotel guests out of the hotel.

The hotel is organized in a linear arrangement following the slope. A lounge area is located at the midpoint. An exterior exit is also located here. This area allows for light into the hotel and reduces the effect of the long narrow corridor. Light wells are used to let light in the lower floors of the hotel. Elevators, firestair, and an open stairwell connect the levels of the hotel.

The building is organized such that one can go from the hotel through the main floor of the lobby and to the pools without changing levels. This will make it easier for the handicapped visitors and provide for better orientation. Off of this corridor once through the great hall one goes through a transitional green space into the therapeutic center. Once arriving into the first node one has many choices. One can proceed into the changing rooms, take the bypass to the pool areas, go outside, or go upstairs to the care facilities.
The entrance to the changing rooms provides a check to be sure that day guests have paid. Upstairs a desk for the cure facilities provides a check, and outside at the entrance to the courtyard is another checkpoint.

The various cure facilities will be located in smaller buildings inside a larger volume of space which will be landscaped. This will allow separate mechanical systems for the different facilities and will make the area more interesting. Massage, sauna, and inhalation facilities will be included in this area along with a whirlpool, a resting hall, examination rooms, weight and gymnastic facilities and a recreation area.

Many pools are also included in the building. They consist of a lap pool for exercises, mineral baths including a saline pool, and a wave pool. Due to the large areas of the pools they need to be arranged so that they step down the hillside in a terraced arrangement. This will provide for more interesting views in the interior. These areas also will be landscaped. Views will be provided from these areas, and clerestory lighting will also be used.

A corridor connects the lower level pool—the wave pool—with the elevators for access by the handicapped. This corridor also opens unto the exterior courtyard providing a link and has a sun deck on its roof.

The therapeutic center is designed to create a negative space for an exterior courtyard. This courtyard will contain sun-bathing areas and an outdoor pool for swimming and iceskating in the winter. A thermal pool and an area for outside dining will also be provided. Balconies and roof terraces will face into this courtyard and to views beyond. Orientation of the courtyard provides for a shadow free area for sunbathing. Some structure and vegetation will provide for covered lounging areas also.

SPA TREATMENT FACILITIES
1 Sauna
2 Inhalation Room
3 Medical Clinic - Reception
4 Examination Room
5 Treatment Room
6 Massage Room
7 Underwater Jet Massage
8 Heat Whirlpool
9 Resting Terrace
10 Resting Hall
11 Reading Area
12 Pool Attendant
13 Lap Pool
14 Restrooms w/shower
15 Showers
16 Mineral Baths
FOURTH FLOOR PLAN
Finding successful solutions to problems inherent in designing a unified structure that combines several different functional units on a sloped site while maintaining a horizontal circulation pattern between the primary units was an interesting challenge. Overall, I feel that my solution was successful, inasmuch as I was able to utilize a geometric pattern that provides a harmonious design relationship between the therapeutic center, the hotel, and the great hall. I think I successfully accomplished my project goal of designing a facility that would be accessible to the handicapped through the development of a feasible transportation system and the use of the horizontal circulation pattern. In my opinion, the project goal of creating a pleasant, nonsterile therapeutic environment was met through the use of daylighting, scale, and aesthetically appealing terraced landscaping.

If I were to continue developing the project, I would like to get to a higher level of detailing in the elevations and interior design. Additional study could include an analysis of interior design factors such as texture and colors in terms of their psychological and therapeutic effects on the guests.

Since this project is the culmination of the teaching-learning process in the College of Architecture and Planning, my gratitude and appreciation is expressed to all those who were involved in this process, and I look forward to using what I have learned as a springboard for future accomplishments in the vast, creative, and challenging world of architecture.
BIBLIOGRAPHY


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## Indications of Swiss spas

<table>
<thead>
<tr>
<th>Health spas</th>
<th>Stazioni termali</th>
</tr>
</thead>
</table>

### Indications of 1st order

1. **General indications**
   - Convalescence and rehabilitation after illnesses and accidents.
   - Vegetative neuritis. Arthritis and rheumatism.
   - All spas are available for these general indications. The spa is chosen according to the patient's condition and age, and also by taking climatic factors into consideration (Breathing and relaxing).

2. **Disorders of the supporting and motor systems**
   - Rheumatic diseases: arthritis, rhematoid arthritis, spondylomyelitis, chronic arthritis, spondylitis, ankylosing spondylitis.
   - Neurological disorders: cerebral, peripheral, spinal.
   - Neurological diseases: cerebral, peripheral, spinal.
   - Neuropsychological diseases: neurosis, paroxysms of the central and peripheral nervous systems, various kinds of neuroses (anxiety).

3. **Illnesses of the respiratory organs**
   - Subacute and chronic diseases of the upper respiratory tract, of the Eustachian tube and of the lower respiratory tract, i.e., bronchitis.

4. **Cardiovascular diseases and circulatory disorders**
   - Cardiovascular diseases: without decompression, post-operative, and neurological diseases.
   - Disorders of the blood pressure regulation, arterial and venous circulation disorders.

5. **Skin diseases**
   - Chronic inflammatory, allergic, and hypertensive (strongly desquamating) forms.

6. **Illnesses of the urinary tract**
   - Renal calculus (stone stones), chronic inflammations and infections of the urinary tract, and the renal pelvis.
   - Renal calculus after operations on the renal pelvic system and prostate.

7. **Metabolic disorders**
   - Diabetes mellitus.
   - Increased cholesterol in the blood, gout.

8. **Gastrointestinal illnesses**
   - Gastroenteritis, functional digestive disorders, post-operative treatment after stomach or intestine operations.
   - Chronic diarrhoea and constipation. "Heartburn".

9. **Illnesses of the liver, bile ducts, and pancreas**
   - Functional disorders of the liver after jaundice and alcoholism.
   - Chronic inflammations of the gall bladder and bile ducts, cholelithiasis (gall stones), residual complications after gall bladder operations.
   - Chronic inflammation of the pancreas, in particular as accompaniment to chronic inflammation of the bile ducts.

10. **Gynecological disorders**
    - Subacute inflammation of the abdomen, menstrual disorders, sterility, climacteric disorders.

### Indications of 2nd order

11. **Gyn diseases (paracentesis)**

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**APPENDIX**

### INDICATIONS OF CLIMATIC CONDITIONS
<table>
<thead>
<tr>
<th>Departure City</th>
<th>Departure dates</th>
<th>Tour name and itinerary (# of nights)</th>
<th>Land cost per pers.</th>
<th>Bookings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>DB = double occ. SS = single suppl. M = meals incl.</td>
<td></td>
</tr>
<tr>
<td>Baden</td>
<td>all year</td>
<td>Health Spas</td>
<td>DB = from US $ 800.00 SS = on request M = full board</td>
<td>Health and Fitness Vacations (305) 379-9451</td>
</tr>
<tr>
<td>2 &amp; 3 weeks</td>
<td>weekends</td>
<td>Baden Health Spa Package (choice of deluxe, first or standard class hotels) 14 or 21 nights including transfers, sightseeing, spa treatment/bathing and a medical examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crans-Montana</td>
<td>all year</td>
<td>Maurice Messegue’s Treatment with Plants (deluxe hotel accommodations) 14 nights at the Hotel Du Golf; including transfers and treatment</td>
<td>DB = from US $ 1,280.00 SS = on request M = full board</td>
<td>Health and Fitness Vacations (305) 379-8451</td>
</tr>
<tr>
<td>2 weeks</td>
<td>weekends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukerbad</td>
<td>all year</td>
<td>Leukerbad Health Spa Package (deluxe hotel accommodations) 14 or 21 nights at the Badishotel Bristol; including transfers, spa treatment/bathing and a medical examination</td>
<td>DB = from US $ 1,157.00 SS = on request M = MAP</td>
<td>Health and Fitness Vacations (305) 379-8451</td>
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<tr>
<td>2 &amp; 3 weeks</td>
<td>weekends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passugg</td>
<td>all year</td>
<td>Passugg Health Spa Package 14 or 21 nights at the newly renovated Kur &amp; Kneipp Hotel Passugg; including transfers, spa treatment/bathing and a medical examination</td>
<td>DB = from US $ 748.00 SS = on request M = full board</td>
<td>Health and Fitness Vacations (305) 379-8451</td>
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<tr>
<td>2 &amp; 3 weeks</td>
<td>weekends</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>St Moritz</td>
<td>all year</td>
<td>St Moritz Health Spa Package (first class hotel accommodations) 14 or 21 nights at the Park Hotel Kurhaus; including transfers, spa treatment/bathing and a medical examination</td>
<td>DB = from US $ 1,063.00 SS = on request M = full board</td>
<td>Health and Fitness Vacations (305) 379-8451</td>
</tr>
<tr>
<td>2 &amp; 3 weeks</td>
<td>weekends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baden/Bad Ragaz/St Moritz</td>
<td>any day</td>
<td>Gerovital H-3 and Spa Treatment Combination Tours</td>
<td>DB = from US $ 1,500.00 SS = on request M = MAP</td>
<td>Ring International (415) 692-3966</td>
</tr>
<tr>
<td>15 days</td>
<td></td>
<td>14 nights in Baden, Bad Ragaz or St Moritz — stay can be lengthened or shortened subject to clients’ requirements. Includes spa treatments and related medical examinations with or without Gerovital H-3, as well as all transfers, three half-day excursions and more</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baden</td>
<td>01/09 - 12/18</td>
<td>Baden: The Famous Health Resort of Switzerland (standard, first class or deluxe hotels) 20 nights including all transfers, two medical examinations, daily thermal baths, one hour autogenic training, three half-day excursions, a small voucher booklet and much more</td>
<td>DB = US $ 1,050.00 to 1,645.00 SS = US $ 560.00 to 492.00 M = full board</td>
<td>Health &amp; Pleasure Tours (212) 506-1775 (212) 506-1866</td>
</tr>
<tr>
<td>21 days</td>
<td>Sundays</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zurich</td>
<td>03/27 - 10/30</td>
<td>Gerovital H-3 Treatments/Baden Spa Holiday (deluxe hotel) 20 nights at the deluxe Hotel Stadthotel, medical consultations, Gerovital H-3 treatments, thermal baths, one hour autogenic training, roundtrip transfer Zurich Airport - Baden, three half-day excursions, special evening entertainments and much more</td>
<td>DB = US $ 2,200.00 SS = US $ 350.00 M = full board</td>
<td>Odyssey Travel (415) 567-9164</td>
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<tr>
<td>21 days</td>
<td>Sundays</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baden/Ascona</td>
<td>all year</td>
<td>Relax in Baden - Enjoy Ascona (standard or first class hotels) 7 nights in Baden, 7 nights in Ascona, including all transfers, several excursions and sightseeing trips, thermal baths in Baden, voucher booklets and much more</td>
<td>DB = US $ 930.00 SS = on request M = breakfast daily</td>
<td>Selective Tours of Switzerland (212) 758-4375 (903) 223-2754 Swissair (212) 995-400 (00) 221-0644 (800) 522-8908(NY)</td>
</tr>
<tr>
<td>15 days</td>
<td>any day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SITE TO THERAPEUTIC CENTER AND HOTEL

ACCESS

- PARKING
  - ADMIN.
  - TRAM DEPOT
  - LOBBY
  - THERAPEUTIC CENTER
    - HOTEL

- HOTEL (2-3 WKS. STAY)
  - ACCESS: VIA ROAD

- LOBBY

- THERAPEUTIC CENTER

- HOTEL

- DAYTRIPPERS (1-DAY STAY)
  - ACCESS: ROAD, BOAT

- EMPLOYEES / SERVICE

1) HOTEL GUESTS
2) DAYTRIPPERS
3) EMPLOYEES / SERVICE
SPA FACILITIES

LOBBY
ADMIN.

MEDICAL CLINIC

MASSAGE SALON

CHANGING ROOMS

SHOWERS

EXERCISE

WEIGHTS

POOL

THERMAL POOL

RACQUETBALL
- Furniture in Lobby will consist of seating for the waiting area and an information desk.
- Restrooms and telephones will be located off the Lobby.
Furniture in the restaurant will consist of tables, salad bar, waitress counter, cash register.

Direct access is needed to the kitchen.
Pool & Changing Rooms

Lobby

Changing Rooms

Showers

Exercise & Recreational Activities

Seating Around Pool

Pool

Seating Around Pool

Thermal Pool
SALUHA, INHALATION, AND MASSAGE

- Changing Rooms
  - Cold Plunge
  - Massage
  - Inhalation
  - Masseuse

- Saluha
A physical will be given at the guest's request. A stress test and a blood pressure reading would be given.
RESTING TERRACE

SHACK BAR

POOL

RESTING TERRACE

EXERCISE ROOMS

- The terrace is predominantly outdoors.
- An indoor resting pavilion may be including.
- Furniture will consist of lounge and lawn type chairs and small tables.
The room is a quiet one... it could be a pavilion in itself.

Tables and chairs are located in the room.

Daylighting would be desirable.
The recreation room might be divided into several areas for ping pong, video games, etc.
THE CLASSROOM WILL BE A LARGE ROOM WHICH CAN BE BROKEN INTO TWO ROOMS BY THE MEANS OF A DIVIDER.