COLUMBUS SPORTS CENTER

Sports facility. Columbus, Indiana.

William T. Stambaugh.

May 1981.

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I have made an attempt to capture the essence of the architectural thesis as I experienced it. This book is designed to acquaint the reader with the designer (myself) as well as the design (my thesis).
This book is a documentation tracing the evolution of an architectural thesis from conception to completion, a process spanning 7 months. The book is composed of three (3) sections, roughly corresponding to the three (3) quarters of a school year.
The PROJECT BACKGROUND is first explored. In that section subjective and objective influences are identified. The information gathered during this stage has been simplified, as in all other sections, for the sake of the book. The influences identified form the guidelines which aid development in the following section.

SYNTHESIS is the Greek word meaning 'to put together'. The synthesis section deals with the development of my schemes. I gave a brief summary explaining my process of designing and then review the steps involved. A page of graphics portraying the essence of each concept follows each page of text. The concepts contain the pieces used to form a synthesis. Once the pieces fit a solution has been found.

My SOLUTION is the presentation of final drawings. The drawings document the solution I arrived at and are self explanatory. These drawings are the culmination of the design, a solution.

I have also included a concluding statement giving my views on the thesis experience. Although not considered a major element this statement is still quite significant in light of what has been learned.

In the appendix I have compiled information intended to inform the reader seeking further project background and specific
introduction

The project is a community owned sports facility. The purpose is to provide year round recreation for the people of Columbus and surrounding areas. An atmosphere of informality and openness will enable the facility to be responsive to the general population it serves.

Located on the near north side of downtown Columbus, the site is easily accessible to all parts of the community. The arterial highway to the south of the site connects the downtown area with all surrounding localities. The facility is walking distance from both the downtown and the residential area to the north and east. The siting also provides a park to the immediate west and north of the facility.

The facility has a total of 179,690 s.f. and would cost approximately $12,000,000 to construct. The facility itself is a composition of building masses with a central spine as an organizing element. An air of transparency pervades the complex as most functions enjoy visual proximity with each other. The enclosed olympic sized pool and tennis courts comprise the major functions of the facility. A racquetball center connected by an overhead walkway along with retail shops and a restaurant/bar combine with the major functions to create a truly diverse centre.

It is hoped that the mixture of activities will support an intermingling of persons which could become an activity in itself.
aknowledgements

Robert Koester

Faculty Advisor
For his guidance, suggestions and encouragement.

All my friends and colleagues for the spirit of achievement they invoked.

And my mother and a very special friend for their backing and support.
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THESIS OVERVIEW

PROJECT STATEMENT

PROBLEM DEFINITION

DESIGN GOALS

DESIGN PARAMETERS
The thesis process is characteristically contained in three (3) chronological stages, each a 10 week time span (quarter). Some overlapping usually occurs between stages but close adherence to the time table is encouraged. The process is a continual one spanning the 30-week period. There are no distinct breaks in the design process although the designer is expected to achieve certain levels of achievement at specified points in the process.

At the close of each of the first two quarters juries are held to evaluate design progress at that point. The juries are comprised of faculty members and other student. Criticism helps the designer gain insight into his project.

Before the thesis year actually begins, a thesis proposal is made. There are few restrictions placed on the proposal but the designer should be realistic about his capabilities. The designer should have an idea of approximate square footage total and program along with a site selection.
The project is a community owned facility broadening the scope of recreation available to Columbus and surrounding communities. The facility will help satisfy the recreational needs of a rapidly growing town. The location near the center of town should allow the facility to also function as a social meeting place for groups of all ages and backgrounds. In this sense, the project will truly be community owned and used.
Sports have become an important facet of today's society. Americans today have more leisure time than ever before. More and more, communities are striving to provide more adequate recreational and athletic facilities. A sports program and facilities is part of a well-rounded community.

The Europeans have become the leaders in providing community facilities for recreation. The Europeans intense interest in health is reflected in the advanced status of their sporting facilities. The German facilities in particular served as an inspiration for my project. Here in this country also, we have begun to realize a healthy populace is more resistant to the many ills of society.

Columbus has long had a tradition of sporting excellence. In 1949 Donner Pool was built and was one of the first 50 meter pools (olympic-sized) to be built in Indiana, perhaps the midwest. Columbus also has long had outdoor tennis courts. But many of these older facilities have either fallen into disrepair and/or are overcrowded. At present, there exists only one racquetball center, located on the far east side of town.
There is a real need for new sports facilities in Columbus. Only one indoor 25-yard pool had been built since 1949 for public use. Of the four tennis parks operated by the city, only one is located near the west side and those courts are in great demand. With the projected surge in population of the west side the need for increased sports facilities will be greater than ever.

Downtown development is expanding to the north while residential increases are occurring west of town. This growth needs to be augmented with community centers providing a variety of activities to serve a growingly diverse population.
GOALS

To orchestrate a family of functions through an organizing theme transforming the project into a working organism with each function complimenting one another.

(The Theme)
As an organizing element the human presence should be the prime concern of the designer.

While designing for large groups of people the individuals own special needs must not be overlooked and neglected.

(Mechanics)
The mechanics (tangibles) are met with an air of honesty...structure, fenestration, and form are the honest expressions of function.
(Spatial Quality)
As a designer, I need to visualize a walk through all the spaces and experience each space in sequence as a user might. In this manner, the often overlooked areas of refinement at the human level can be addressed resulting in a more detailed level of refinement.

(The Image)
The lines and volumes of the building should dramatically depict the athletes movement. The facility should convey feelings of elegance, gracefulness and strength.

(Appearance)
The edifice should possess a degree of uniqueness to accentuate the existing town fabric but should not draw undue attention due to sensationalism.
DESIGN PARAMETERS

Space requirements and their functions as per program.

Will serve a diverse group of users; the general public.

There already exists a variety of public and private activities which need not be replicated.

Becomes an element straddling the downtown district and the parks to the immediate north and west.

Acts as a fringe boundary of the downtown; a type of border or edge.

Accessible to users on foot, bicycle, and automobile.

The site has conditions conducive to the utilization of solar, wind, and geo-thermo energy.

Open all year to provide continual recreation resource during months when outdoor sports are not possible.

Open to air in summer to reap benefits of sun and breezes.

Will simultaneously be supporting large crowds and also individuals.

There is a high quality context of architecture in Columbus.
synthesis

(the putting together)

SUMMARY OF SYNTHESIS

THE CONCEPTS
SUMMARY OF SYNTHESIS

Conceptualization: This step lays the groundwork for any further design development. It is critical that a scheme works well conceptually or the designer will only be battling an inherent flaw throughout development. At this stage spacial and functional relationships are established. Circulation may be considered although not defined. Also, at this stage I want to consider building image concerning massing relationships. When a workable concept (one that seemingly satisfies design criteria) is worked out then I proceed to develop the scheme further.

Development: At this point building correlation (of functions), graphic composition, structure, zoning and circulation, entry and enclosure, and 3-dimensional patterns are developed. Now the building begins to achieve it's own unique character. A building image can emerge as a guide for future refinement. Before design refinement occurs, all development needs to be tested through development of schematic drawings.
Evaluation: Schematic drawings should thoroughly portray all development up to that point. At this stage feedback from jurors and classmates is critical. The more information presented, the more opportunity to receive constructive criticism. After receiving criticism the designer now chooses either to continue with the scheme and refine it, or to alter, modify, or as in my case, start over.

Refinement: In this stage a project possessing the designer's goals rises from the rubble of discarded schemes. I consider this step to be a 'fine-tuning' of the elements found in the design development(s). The entire scheme needs to be brought to a consistent level of quality and refinement. Through fine detailing, surface treatments, and material choices the building assumes the flavor the designer envisioned upon conception.
1. Scheme with remote parking, and parking across highway.
   Lack of response to site.
   Complex not developed.

2. Parking structure located on site.
   Scheme not yet working as complex.

3. Linear scheme clarifies spaces.
   Lack of entry hierarchy and segmented parking.
   Internal circulation is working.

4. Centralized scheme about courtyard.
   Conflicting paths of entry.
   Locker rooms at periphery.
   Courtyard fails as family of entries.

5 a. Linear scheme works well functionally.
     Provides clear paths of circulation.
     Entry has clear hierarchy but still must increase its function as an orientor.

5 b. Entry quite clear.
     Circulation simple, direct and efficient.
     Do it!
This was my original scheme. I worked with this scheme until I realized a connection over the street was not really feasible. I spent much time with this concept without much success. There were problems with the remoteness of the parking (across the street) regarding the entrance. At this point there were still many options open. I chose to pursue them. By dismissing a stick-in-the-mud concept I was able to proceed at quickened pace exploring other concepts.

Looking back, I would more thoroughly investigate the available design criteria and crystallize my goals before developing a working concept. Much of my design indecisiveness can be attributed to ambiguous conclusions based on insufficiently gathered information. In addition, my facility program was not yet fully developed, leaving questions concerning space allotments and functions of those spaces. In general, a more careful analysis in the preliminary stages may have saved time and consternation.

Major weakness: I spent much time modifying a single concept instead of exploring other possibilities. Not until I finally brought myself to divorce my first concept did my design make any progress.
"Field Concept"

This scheme is a result of the decision to move the parking onto the site. The massing of the buildings served to form an enclosed space facing the street. All functions were organized about the enclosure. The swimming area was located to maximize southern exposure as was the racquetball. The tennis area was not. The major theme being the functions all feeding off the courtyard area.

Further development led to a problem with the entry statement(s). The entries seemed incidental without any hierarchy of importance. Internally there were conflicts with the movement of people to their various functions. The complex was not yet acting as a whole but rather several functions which had been physically connected. Due to these inherent problems adequate time was not spent developing other stages of development. However, much groundwork for internal spatial arrangements was being laid.

At the end of fall quarter a jury was held and many basic problems in my scheme were exposed. I was fortunate to have done a complete presentation to illuminate any flaws in my design or they may have been permanently engrained in my project. The parking structure failed to respond favorably to the site. It was also unclear to the jury as to where the major point of entry was to be.
"Linear Concept"

I arranged the major functions along a central axis to provide a more defined circulation element. At this time I also tried to incorporate southern exposure into the scheme as the buildings were aligned along an east-west axis. In this scheme I did much to further my concept of shared spaces as the swimming and tennis areas shared a common corridor.

The development was minimal, however, as I borrowed interval arrangements from an earlier scheme and transposed the arrangements into the new scheme. Only the connections were developed. But I was able to explore the possibility of an axial corridor. My method of plugging in block functions resulted in a weak lobby and entry statement as they were merely left-over spaces.

Major weakness: A scheme failing to incorporate the site produced an ambiguous parking arrangement lacking a focal entry point.

Although I dismissed this scheme, I was very close to realizing my final scheme. But first I explored another scheme in an attempt to diminish the remoteness of the racquetball area and to strengthen the entry statement.
"Courtyard Scheme"

I formed a large, central courtyard by arranging the major functions, as building masses, in a U-shape. Originally, the courtyard was intended to create a "family of entries". However, due to the large scale of the courtyard and lack of an organizing theme, the entries seemed arbitrary and unassociated.

Much development went into this scheme as I struggled to bring the design to a rational solution. Exhaustive studies of the facade, structure and landscaping were followed by studies of the interior. The resulting attitudes developed towards the facilities interior became the most meaningful exercise of this stage in development.

Eventually I came to the realization this scheme did not provide the centralized lobby I had sought. There needed to be a space which would direct visitors to all parts of the building. When I tossed this scheme we were approaching the end of the winter quarter and I was still without a satisfactory scheme.
"Linear Scheme"

All the activity areas occur along a common axis. The building massing opens at one end to form an entry statement. However, there are still some lingering inconsistencies from earlier schemes. Now almost all the parking is clustered about the entry. The entry has assumed a centralized location in the scheme.

It was during this stage I realized a consolidated entry would be the best solution to a problem - plagued assortment of entries. Satisfied that I had a workable scheme, I worked to make it workable. I did many sketches of interior spaces to work out relationships between spaces. I now initiated the use of a study model to solve questions in form. The method of using study models proved very useful. I wish I had utilized models earlier in the design process. However, I now had worked out all functional and spatial relationships to my satisfaction.

The jurors also felt I had a functionally workable scheme. But there was a lack of harmony in the 3 dimensional aspects of this new design. I agree, there was a major conflict of forms in the complex which needed to be resolved as a final step in refinement. I spent the first couple of weeks spring quarter working mainly on a building image. This period had to be the epitome of form following function; an extreme example.
solution
AXONOMETRIC DETAIL
concluding statement

A great portion of what I learned during my architectural thesis was self-taught. In that respect thesis year is unique. I was able to thoroughly explore my own design processes - finding their weaknesses and strengths. I began to develop a methodology of design by reinforcing methods which produced the desired results. These methodologies are the tools of design I will carry with me into the professional world and continue to refine all my life.
SPACE SUMMARY

CENTRE ADMINISTRATION 2,700 S.F.

MECHANICAL ROOM 3,700 S.F.

RACQUETBALL
- courts (10 @ 800 S.F.) 8,000
- locker rooms 3,200
- office, reception & spectators 3,200
  14,400 S.F.

SWIMMING AREA
- pool area 34,800
- locker rooms 8,100
- spectator area 8,000
  50,900 S.F.
<table>
<thead>
<tr>
<th>TENNIS AREA</th>
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<tbody>
<tr>
<td>courts</td>
<td>35,100</td>
</tr>
<tr>
<td>locker rooms</td>
<td>3,500</td>
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<tr>
<td>office and reception</td>
<td>1,050</td>
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<tr>
<td>spectator area</td>
<td>3,000</td>
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<td><strong>TOTAL</strong></td>
<td><strong>42,650 S.F.</strong></td>
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<td>25% circulation</td>
<td>29,937</td>
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<td>GRAND TOTAL</td>
<td><strong>149,688 S.F.</strong></td>
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