BARRIER-FREE DESIGN:

Experiencing the Whole Building and the Building as a Whole

An Architectural Thesis

Exploring the Integration of Barrier-free Elements into the Total Design Process

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August 1986.
A Student Activities Center
For Ball State University.

An Architectural Thesis Exploring the Integration
of Barrier-free Elements into the Total Design Process.

Submitted to the College of Architecture and Planning
Ball State University.

By THOMAS M. ERDELAC
August 1986.
To Mom and Dad-

Thank you for all your love, support, understanding and patience, especially your patience. There should be a degree given to the parents of architecture students - they deserve it.

I love you both!
Thanks to all those who pushed, understood and inspired me to complete my thesis -- without them this would not be possible. Thanks Rod, you're included in the above, along with twenty other friends. To all my roommates who helped bring a special meaning to the word "architecture." -- And a special thanks to my parents -- for their much needed support and understanding -- without which this would not have come to be.

T.M.E.
1986

[Signature]

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Acknowledgements

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Table of Contents

Acknowledgements 3
Abstract 6

Meaning of Barrier-free 9

The Ramp: 15
   Historical Precedent 15
   Le Corbusier 18

The Thesis: 23
   Statement 23
   Argument 23
   Approach 25
   Movement 27
   Linear Organization 28
   Study Continuation and Expectations 31

The Project: 33
   Intent 34
   The Site: Background 35
   The Site: Location 37
   Building Program Summary 39

Design Solution 42

Schematic Design 65

Design Development 69

Epilogue 71

Appendix 73
   Thesis Proposal 75
   Bibliography 79
Systems provide a discipline rather than a limit. They allow for growth, they accommodate the schergo: They can be elaborated to encompass infinite variations and complexities.

Peter Eisenman

Abstract

In the world of architecture, the designer follows many paths in order to unify his design. He may choose a functional approach, aesthetic approach, or an arrangement of conceptual ideas in order to communicate ideas. It is important to integrate all of these paths into the design process in order to successfully address the needs of all those who are to experience the intention of the designer. This one washable process has been the goal of all designers. The body of the following is the exploration of the integration of these elements into the design process, a search for an attitude in the total design.
Designing with Empathy:

It makes it possible to picture another's situation accurately and to create in one's design the sorts of settings that allow others' lives to unfold freely.

Aldo Van Eyck

Raymond Liechty and Barbara Winslow,
Design for Independent Living. (Berkely, Ca.,
University of California, 1979.) p. 104.
Definitions

**Barrier:** A factor that tends to restrict the free movement and mingling of individuals.

**Handicap:** To denote an interaction between a disability and an environment in which the design of the environment erects obstacles or barriers to disabled people.

**Accessibility:** The combination of various elements of the built environment which allows entrance to, egress from and use of buildings and facilities by the public.

**Barrier-Free Design:** An environmental design that is responsive to life's stages and the capabilities of all users.
Meaning of Barrier-Free Design

Each morning over 30 million Americans wake up to face a very unsympathetic environment in which we all live. A vast majority of our man-made environments unintentionally fail to support the 'compensating' abilities of these people who have a visual, mental, or aural impairment. This results in compounding their disability with an unnecessary man-made environmental "handicap". When you consider that every human being at some time in his life is faced with some degree of sensory physical or mental disability, you realize that each of us will probably be faced with some environmental "handicaps." That is why it is extremely important for us as architects, to make a conscious effort to design for these 'compensatory' abilities, all of us can have environments that are safer, more convenient and less "handicapping" to use.

The issues for barrier-free design are certainly there. In fact, by giving it such a special name, we are almost segregating it from our design process. It's as though it should only be used when we are faced with environmental barriers that impede the movement of handicapped people. Barrier-free design should be simply called design because the true essence of design is to meet the needs of its users in the most efficient, functional and aesthetic way possible. Design should be ageless and barrier-free design certainly addresses the needs of all people. It becomes a matter of designing for people's entire life span. For like it or not, all of us at one time will experience some form of disability and appreciate the added effort of the designer to make his building totally accessible.

Barrier-free design is not simply a matter of ramps, curb cuts, handrails and wider bathroom stalls. Although these elements and many more are a part of it, it has taken on a new meaning. As James Jeffers in Michael J. Bednar's, Barrier-Free Environment, redefines barrier-free design to mean, "...the incorporation and utilization of design principles that result in the construction and creation of functional, safe and convenient environments responsive to users needs."
This should be the premise of every design philosophy where it directly deals with barrier-free design or not. All too often barrier-free design has become complicated by stringent requirements, when in essence its solutions lie in simple common sense application of design theory.

The greatest goal of a disabled person with impaired ambulation is mobility true from a functional sense as well as psychologically one. Mobility is a symbol of independence. By becoming independent of his handicap he then can become in control of his environment and not let the environment control him. They should not be barred from going virtually anywhere able bodied people can go. Each day more and more buildings are being made accessible and help reinforce their conquest over their disabilities. The messages a building conveys to its user involve more than a clarification of purpose or ease of access; they implicitly convey a society's attitude toward the handicapped and how the handicapped should in turn view themselves. It should come as little surprise to architects then that current theoretical approaches to architecture, such as analyzing the building as a system of signs, bears a strong relationship to barrier-free design. These approaches implicitly recognize that architecture communicates on more than a functional level; the nature of that communication becomes meaningful due to the social, psychological, and physiological factors affecting individual perception.

The problem lies in not understanding the importance of barrier-free design but in ignoring its presence. The attitude of "out of sight, out of mind" has prevailed for so long that implementing barrier-free elements into the design has become piecemeal and mere afterthoughts to satisfy code requirements. The built environment as it exists today communicates to the disabled messages of deviency, incompetence and inferiority. Its importance lies also in the elimination of the stereotyped images of both able-bodied and disabled people and to establish performance standards which include all human conditions. Although attitudes have changed toward handicapped people, if building changes do not respond, responsive life spaces will not exist.5

We need solutions that not only satisfy the codes but are natural flowing and inconspicuous design for moving people through grade changes. The results when these barriers are removed will not only improve the capability of the handicapped person to use the environment but the functional capabilities of the nonhandicapped as well. These "side effects" of barrier-free design suggest a redefinition of this concept as a much broader and more universal one that involves the environmental needs of all users not just the disabled.
Future generations may call this the most significant cultural symbol in the history of mankind: the architecturally accessible environment. Accessible environments may mark forever that point in the evolution of civilization where all men, regardless of physical or mental disability, were first accepted as being equal and were first invited to assume their rightful place with their society.6

All of the communication and orientation barriers are not yet known, and we do not yet have all of the design solutions and alternatives. Perhaps by constantly examining each man-made environment in terms of ability to compensate via sight, sound and environmental order, we can develop environments that are safer, more convenient and less "handicapping" for all of us to use.

6. Wm. J. Ripley, p. 7
Staircase with shallow ramp in Belvedere,
From 'Le Vatican' 1882.
The Ramp

There are many elements incorporated into what we call barrier-free design and there are also many variables of handicap involved. To try and integrate all of these into a design project would be very difficult. That is why I have chosen to explore the utilization of the ramp and ramping systems as the catalyst into understanding barrier-free design. The initial meaning behind barrier-free design is to allow total mobility into, around and through a building. That is why I feel the ramp is an excellent example of how to incorporate movement into a building system using this barrier-free element. Of course, the most elementary application of movement in barrier-free design is to develop a single level scheme. This may be practical in many applications but for the project I have chosen it does not seem to fit well into the concept. Thus, an indepth look into: what is a ramp, what is its primary functions and what does it want to convey to a building scheme were studied extensively.
The best way to understand a ramp is to look at its evolution from ancient times to modern times. This will unfold its various applications and degrees of importance. The ramp was probably utilized since the stone age by helping man with his everyday tasks and provided an ease of access to dwellings or paths. The ancient Sumarians constructed large pyramidal shaped temples called ziggurats in which ramps were used to traverse from level to level. The ancient Egyptians used the ramp as an element of procession and ceremony. As seen in the example of Queen Hatshepsut’s Mortuary Temple, Deir el-Bahari, the long centrally located ramp, had strong ceremonial significance in the layout and procession of her burial. They also used ramps as labor moving devices to construct the pyramids. Thus, both a ceremonial and utilitarian significance surfaces as to the importance of the use of ramps.

The Greeks also used ramps extensively. Here too the movement along a ramp became more of a procession. The acropolis had an extensive system of ramps which allowed the people and worshippers a pathway toward the mount on which it was built.

Illustration from Meaning in Western Architecture, p. 15
Next the Romans used ramps in both utilitarian and processional fashion. The Temple of Fortune Primigenico, Palestrino, used long covered access ramps to lead up to a centralized entry. Thus, articulating the facade by these long ramps and emphasizing their functionalism as well.

Many more applications have developed throughout history. From Medieval castle application to French landscaping, the ramp has shown its prominence throughout history. It is not until the Modern Era, that the ramp has lost some of its true meaning. It seems there was a push towards complexity. But a few master designers incorporated the ramp into their designs and brought out a true enriching quality. One such designer was Le Corbusier. Le Corbusier incorporated the ramp into many of his masterful designs, the most famous of which is Villa Savoy 1928-31 in Poise, France. The ramp allows him to emphasize movement in, around and through his buildings. The ramp exerts a strong directional pull, which provides a dramatic and varied experience to the building.

"Le Corbusier's drawings portray a sense of particular scenerio of human interaction, which we recognize and identify with and which allows us to place ourselves in the environment he portrays and senses their attributes."

7. Raymond Liefchy and Barbara Winslow, p.130.
This is certainly seen and exemplified in his design of Villa Savoy. The entry becomes ceremonial and directly ahead on the axis, a ramp extends this theme by providing a gradual ascent, which suggests that the promenade architecture will gently unfold. The ramp connects all three levels and integrates the vertical dimension in the free plan. The ramp leads one up to the main level and from there on to the "solarium" on the roof, where curved walls represent a synthesis of informing, prevailing and interaction with the surrounding landscape. The ramp not only leads up to the roof as a functional element, but also into the open space beyond—spatial freedom. The path itself becomes part of the landscape, a living entity. Corbusier has skillfully arranged otherwise fairly simple architectural elements into a highly complex periodic pattern of space-time relationships, experienced primarily through body movement. Architecture takes on more life and gives more as it becomes a stage for movement.

The ramp has become a definite architectural element.

Le Corbusier

Sketch analysis of Villa Savoy 1928-31
Analysis of Precedent.
Carpenter Center for Visual Arts
Harvard University, 1963
Space, Time and Architecture, p. 556.
Design is only a response to an expressed human need - to an interaction in which different aspects of the environment coalesce into a whole - a scenario.

Raymond Liefchy and Barbara Winslow, Design for Independent Living. (Berkely, Ca., University of California, 1979.) p.143.
The Thesis

Statement

There is a definite need to reevaluate our design process such that the needs of all people are taken into account. A step into rendering this problem is the understanding and integration of barrier-free design as part of the initial design criteria.

Argument

We are faced with one of the most significant cultural issues in the history of our society: that is the architecturally accessible environment. The totally integrated and accessible environment may mark that point in the evolution of civilization where all men, regardless of physical disability, were first accepted as being equal, and were first able to assume their rightful place within their society. The majority of man-made environments unintentionally fail to support the compensating abilities of Americans who have visual, mental, and aural handicaps. This not only compounds their disability with unnecessary man-made environment handicaps, but disregards their user compatibility for the environment in which they are placed. What is needed is to make a more conscious effort to design safer and more convenient environments.
A building is an incitement to action, a stage for movement and interaction - one partner in dialogue with the body.

This quotation from Kent Bloomer's Body, Memory and Architecture, is the kind of synthesis in which our design process should undertake. There needs to be a closer interaction between man and his built environment. And this has certainly not been the case in the architect's response to supplying a totally accessible environment for all men to use. Accessibility is more than a response to just physical accessibility. It also means information, communication and consideration on part of the environment to its user. All too often barrier-free solutions are merely afterthoughts which become tacked on appendages that satisfy the code requirements but little else. What are needed are solutions that not only satisfy code requirements but are natural, flowing and inconspicuous designs for moving people through the environment. These solutions help benefit all people and are just as much a part of the education process of breaking down the sociological and psychological barriers that exist because a lack of barrier-free applications.

Although this issue has been around for centuries, there has been little research done on the subject. It has not been until the last 10 to 15 years that code requirements have been changed to address the issue. That is why I feel an indepth understanding of those elements are applied to the architectural environment is very important. A designer's largest fault is his lack of understanding of his users' needs in an overall sense. The assumptions of designing for the norm must be re-evaluated and equality of design must take precedence. For me to begin to understand the applications of barrier-free elements into the design process I researched all the aspects of barrier-free design. But I felt to successfully integrate all these elements into one design would be a monumental task. (That is taking into consideration the needs of the blind, deaf and physically and mentally handicapped.) So the decision to concentrate mainly on the physically handicapped was made. My understanding of how to successfully integrate design cri-
teria for the physically impaired became my major concern. Thus, an indepth understanding of the ramp and its evolution was necessary to treat this architectural element in its truest sense. This was very helpful because the ramp and its many understandings and qualities became the perfect application in initiating my design and design process. Its linear quality, sense of movement and differentiation in visual perception were the qualities I in turn wanted to impart in my project. By also studying Le Corbusier and his ramp applications, I became better in tune to the sense of functional aesthetic application of the ramp. It's evolutionary response to the application of the ramp was truly a product of his genius. From the early application in slaughterhouses, to the Visual Arts Center at Harvard University, movement is visually dramatized on the exterior as well as the interior. These are the qualities that I feel are essential to creating a dynamic design and which I would like to impart in my design solution.
Movement

Movement and mobility are two words that are often taken for granted by everyone who doesn't have a problem with them. For the physically impaired, they take on a much greater meaning. They are the difference between independence and freedom and confinement and dependency. Barrier-free design is trying to enhance that independence through total accessibility. Although a structure must be made accessible at almost all levels, it must not become so accessible that it is a vast open area with no obstacles. Some obstacles are needed and are necessary to develop motor skills of the disabled. This helps further exploration and the development of competence. An environment must be explorable and manipulated by a disabled person to such an extent that it encourages further exploration and movement. The environment must present a challenge but not frustrate the disabled person's attempt to develop skill at manipulating it. A successful exploration of an environment reinforces competency which in turn reinforces positive self-image, the most important factor of all.

Linear Organizations

By exploring the utilization of the ramp, I have found that it can be manipulated in various degrees of application. The ramp has taken on many meanings, but those which most impressed me was its application as being a processional element. This directs itself to different experiential scenarios along its path. By applying these processional elements to a linear system, I have discovered many possibilities. Linear systems offered additive opportunities along axes. This allows for repetition and the development of rhythms. Movement becomes an important component of the form.\textsuperscript{10} By expressing a ramping system in a linear fashion, I have found that many opportunities arise for experiential design decisions. This also allows for a great deal of flexibility because the ordering system is set up in such a way as to work with and not compete with the linear system. By emphasizing the linear and ramping systems as main organizational elements in the design, it becomes very clear as to how and where the circulation system is being developed in the building. The building is not a maze, but a repetitive system of common elements which enhance the organization of the environment and certainly projects the ideals and principles of barrier-free design.

**LINEAR ORGANIZATIONS.**

A LINEAR ORGANIZATION USUALLY CONSISTS OF REPETITIVE SPACES THAT ARE SIMILAR ALONG ITS SIZE, ROOM + FUNCTION. IT CAN ALSO CONSIST OF A LINEAR SPACE THAT ORGANIZES ALONG ITS LENGTH A SERIES OF SPACES THAT DIFFER IN SIZE, FORM, OR FUNCTION. NO SPACES EACH SPACE ALONG THE SEQUENCE HAS NO EXTERNAL EXPOSURE.

SPACES THAT ARE FUNCTIONALLY OR SYMBOLICALLY IMPORTANT TO THE ORGANIZATION CAN OCCUR ANYWHERE ALONG THE LINEAR SEQUENCE AND HAVE THEIR IMPORTANCE ARTICULATED BY THEIR SIZE AND ROOM. THEIR SIGNIFICANCE CAN ALSO BE EMphasized BY THEIR LOCATION AT THE END OF THE LINEAR SEQUENCE.

DIFFER FROM THE LINEAR ORGANIZATION OR AT THE PIVOTAL POINTS OF A SEGMENTED LINEAR FORM.

THE FORM OF A LINEAR ORGANIZATION CAN RELATE TO OTHER FORMS IN ITS CONTEXT BY:

- Linking + Organizing Them Along Its Length
- Serving As A Wall Or Barrier To Separate Them Into Two Different Fields
- Surrounding + Enclosing Them Within A Field Or Space.

Concept

Concept: utilization of the ramp and movement.
Study Continuation and Expectations.

By looking at the design solution that follows one can see that the major emphasis of the design was placed on the experiential movement of the physically handicapped user as well as the non-handicapped users through the building. This movement along the ramping system coupled with its linear organization provided the design scenario in which I felt the applications of barrier-free design were best exemplified. What remains to be seen is to what extent this system will be accepted as a bridge over the gap of non-responsive environments to specific users needs. I feel this application is just as strong of a solution as it is a teaching tool to societal views and attitudes. We must realize that the time of stereotypical responses must end and that an accessible conscious environment is an improved environment for all.

For this environment to truly be labeled "barrier-free" all the considerations of barrier-free elements should have been met—for this I apologize. I feel this is not the end to my thesis study, but rather the beginning to understanding inclusively the elements of barrier-free design. In order to gain an understanding I had to start somewhere and to me the ramp provided a basic but extensive understanding of how to incorporate barrier-free design into my design process. I must admit it was not easy, but rarely anything of significant substance ever is.
Sketch of Ramp and Stairway
Villa Savoy, Le Corbusier
The Project

a Student Activity Center

Ball State University

Man is the subject as well as the object of Architecture.

Aldo Van Eyck.

Raymond Liefchy and Barbara Winslow, Design for Independent Living, p. 104.
Intent

After reviewing the research that I conducted in trying to better understand the concepts behind barrier-free design, I realize that this thesis is as much of a learning tool for me as it will be for others who look at this project. My intentions were to try and bring some sort of meaning to the architectural expressions emphasized in the design of this building. It was as much of an experimentation in the combining of different systems as it was striving to successfully employ the principles of barrier-free design. I also hope that the functions of this building will help unify the campus and cause a greater integration between student and campus life.

The present student center offers little in support of campus life. Its primary function is to house the Bookstore and hotel rooms and offers very piecemeal activity spaces and areas for students to interact and mingle. It is also located at the extreme southern end of campus and offers no close relationship towards the growing northern end of campus.

That is why the addition of a centrally located Student Activity Center was an ideal hypothesis in which to explore the concepts of barrier-free design. This would not only solidify the campus structure, complete the "new quad," but also unify the campus with interesting activities and help prevent the students from viewing the University as a "suitcase college."
The Site: background

Ball State University is located in Muncie, Indiana. The campus is located on the near northwest side of the city. The site I have chosen is located on the west side of McKinley Avenue across from the Whittinger Business Building. The site is in the perfect location to help unify the campus. It is located in the center of the extreme northern end and the extreme southern end of the campus, thus completing what has been set up as the "new quad," consisting of the College of Architecture and Planning, the Whittinger Business Building and Bracken Library. The old quadrangle is located at the southern end of the campus and in relation to the existing Student Center.

By choosing this site, I also have a major intercity artery directly adjacent to the site, McKinley Avenue. This artery is also the major link between northern and southern parts of the campus. The site will also provide a focal point for which the campus will become better organized.
The Site: location
Site Analysis

[Diagram showing site analysis with labels such as "Major Minor Views," "Heavy Pedestrian Traffic," "View Approaches," etc.]

Building Plan
Building Program Summary

The Activity Center is comprised of three major levels each supporting a different building function and degree of interaction. The Main level mainly consists of the supportive activities which exist underneath each of the stepped levels that branch off the ramp systems. Finally, the upper level is the terminus of the ramping system and the administrative functions of the building. Other areas in the Center are designated as open interior plazas, with direct access to plaza areas on the exteriors. There is also an exhibit gallery, with direct access to the exterior to exhibit both inside and outside of the building. The Center also has a theatre/lecture hall in which to show full length features and initiate a lecture series.

Theatre:

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### Ramp Criteria

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- Corrugated iron pipe
- Laminated rubber pavers
- Concrete pavers
-仅有尺寸的径向线形的不规则性
Design Solution

The orientation of the facility on the site was based on two factors: its address to the completion of the quadrangle and the relationship in which the building is to address the street scope and pedestrian movement. Since the traffic on McKinley, both vehicular and pedestrian, creates a very strong linear north-south axis, the building is orientated along this axis and this axis has been brought into the building to reinforce both the ramping system and the concept of movement through the structure. This movement is carried up along the ramp and terminates at the cafeteria. This ramping movement is tangent to an interior open plaza that acts as a catalyst for all the activity which surrounds it.

The major entries to the building are located along this N-S axis. The main entry is located at the northern end and allows one to enter on to the main ramping system. The entry located at the southern end has a direct relationship to the interior plaza, and emphasizes the linear movement of the building.

Various entries and openings along the facade and rear allow users to view into the building and to witness the activity going on within.
The circulation sequence of the building is reliant upon the progression of the ramp from level to level. This progression is based on the standard allowance of slope for 30 feet of ramp length at a 2 1/2 foot rise of elevation. Because of this criteria, landings are necessary at the end of every 30' of ramp length. This has allowed gathering nodes and entrances to the different levels to occur. It also allows the user to view the interior of the building from different vantage points and perspectives. A secondary ramp system has been implemented to allow access onto the main system at mid-point. This secondary system also provides a functional aesthetic to the building for the view into the building.

The zoning of the building is fairly simple. The front of the building has a direct street facade and indoor/outdoor relationship which is separated by the major ramping system. The rear of the building is more service orientated, except for the exterior seating areas and recessed plaza. As one progresses up each level of the ramp, the functions of the levels change from public to semi-public to private and administrative areas on the upper level. This is expressed so that the major activities evolve from the ramp itself and allow the more private areas to exist away from the circulation flow.
Just as there is movement clearly expressed in the interior of the building so too does it exist on the exterior. The movement starts at the northern end of the building and as one proceeds south the facade seems to be flowing that way, with the central plaza roof punching through the roof plane to emphasize its importance. This is balanced by two "anchors" located at either end of the building, which allows a beginning and an end to the movement on the exterior and interior as well.

The plaza in the southern end of the building is very flexible in nature allowing a variety of activity to the place. Its relationship allows an indoor to outdoor co-existence and enables the center to open up to the various seasonal conditions.

The water on the site is placed at various locations to foster gathering areas. The pools to the north help express the movement towards the main entry, the fountain and structure in the center of the building helps reinforce the "showcase" ramp and the pools at the southern end help bring tranquility to the outdoor seating area.
A major concern by some was the complexity in which I treated the organization and circulation of the building. Much of the criteria was dictated through required slopes and the organization came about by centering all the public activity along or adjacent to the main ramp system. The activities that became more private gradually were removed from the system and allowed to be removed from the general circulation of the building (i.e. the private lounge and administrative areas). I feel the circulation provides what it has set out to do. It is both functional yet provides variety of experiencing the space in which it moves through, in essence, it is following the criteria I have set up for implementing barrier-free design.
Legend

a. Main Entry
b. South Entry
1. Bookstore
2. Theatre/Lecture
3. Retail Shops
4. TV Lounge
5. Interior Plaza
6. Exhibition area
7. Exterior Exhibit
8. Bus Stop
9. Outdoor seating area
10. Patio
Legend
1. Game Room
2. Recessed Plaza
3. Speciality Food Shops
4. Seating Area
5. Coffee House/Study Area
6. Latio
7. Interior Plaza
8. Outdoor Seating Area
9. Outdoor Plaza
10. Food Service
Interior Ramp Model
Elevations

South Elevation

North Elevation
Sections
Schematic Design

Ramp Configurations
Design Development

Study Model: entry details and "showcase" area.
Epilogue

After rummaging through the piles of tracing paper, stacks of notes and scraps of model pieces, I realize that my thesis has come to a close, but not without a lot of hard work and often disappointments. As I look through the pages of text I have just compiled I wonder if this is enough and then realize that I cannot fully summarize the feelings, the elation of successfully completing a project that at first was a stack of note cards and aspirations. I have learned a great deal this year, especially about myself as an architect, designer and a person. I have also learned a lot from my contemporaries, who like myself, have been through thick and more thick in the past 5 years.

The lesson that has taken greatest hold is to never settle for second best. Even when you think it's the best you have done, it will always be a little bit better (or a lot better in some cases!).

To all those who have read this book by parting words to them are — Remember, sleep is a luxury!

Thanks, again Rod, for your confidence it helped.

T.M.E.
1986
Appendix
Written Summary.

Background: Having gone through four years of architecture school and experiencing a number of related situations, my strongest interests seem to be directed towards planning and administrative duties. Becoming an architect involves many different professions into one. Designer, businessman, public relations, planner, and educator, all combined into forming one of the most well-rounded professions of our time.

As far as my expectations for studio are concerned, I feel that an informal relationship between student and professor is a must. A clash between student and professor is a constant battle of wits and often leads to resentment or abandonment. For the studio atmosphere to be productive for my thesis, I feel the professor must be informative and serve as a guide for the student to help direct and develop his ideas towards a successful thesis.

After I have graduated this year, I would like to travel a little before settling into a definite career choice. On my agenda are a summer in Alaska and a backpack tour of Europe in the Fall. This will provide invaluable experience in my education as well as dealing with a wide variety of peoples and personalities. Once this has been accomplished, I would like to work in a medium size firm, preferably in Indianapolis. Then move on to the west coast and eventually start my own firm in which I would deal with the planning, public relations and administrative duties.
Problem Statement: In my thesis, I will be dealing with what I feel is one of the most significant cultural issues in the history of our society: that is the architecturally accessible environment. The totally integrated and accessible environment may mark that point in the evolution of civilization where all men, regardless of physical disability, were first accepted as being equal, and were first able to assume their rightful place within their society. The majority of man-made environments unintentionally fail to support the compensating abilities of Americans who have visual, mental, and aural handicaps. This not only compounds their disability with unnecessary man-made environment handicaps, but disregards their user combatibility for the environment in which they are placed. What is needed is to make a more conscious effort to design safer and more convenient environments.

Thesis: A thesis is a statement of a position held on an issue. It examines the position and forms a conclusion on the findings. My thesis will address these issues of barrier-free design and see how... can become a more integral part of the design process. All too often these barrier-free solutions are simply afterthoughts, which then become tacked on elements that satisfy code requirements but have little else to do with the total design. What is needed are solutions that not only satisfy code requirements but are natural, flowing and inconspicuous designs for moving people in and around the building envelope. I will be examining such issues as how sight, sound, texture, and environmental order can develop environments that are safer more convenient and less handicapping for all of us to use. With these developments I hope to help people recognize the importance of barrier-free design and remove the unpleasantness associated with integrating handicapped design as part of the total design process.

Approach: Although this issue has been around for centuries there has been little research done on the subject. It has not been until just recently, within the last ten to fifteen years, that codes and requirements have been changed to address the issue. That is why I would like to choose a project that best exemplifies the findings of my research. To date I have made a few choices that may make my thesis enjoyable as well as help prove the issues of my thesis. The first is an educational facility for the physically handicapped. This project will mainly deal with the elements of improving the educational environment for the physically impaired. The second project is a health-care facility for the physically impaired. Here again the main concerns will be to address the special needs of the handicapped and integrate them into the building envelope as part of the design process. The last choice and most likely is a public recreational facility. This one has been chosen most likely because it may best suit the findings of my research. Here the needs of the physically impaired as well as physically fit can be met and the integration of handicapped solutions into the total design process will help reinforce the need for barrier-free design.
After further research and understanding of the issues at hand, a definitive decision can be made.

Site Selection: With further investigation of building types that have similar comparisons to the choices previously given, a site will be selected.

Evaluation: The success of my thesis can be measured in two ways. The first way is to see if my final project has met all of the program criteria I have developed for it. Have I successfully applied my findings in which a truly integrated system can meet the needs of both the handicapped and the normal user? The second way is to see if I have educated myself, as well as others of the significance of barrier-free design and its up and coming importance in the future of our social growth. I would like people to recognize the fact that if the fundamental needs of the physically impaired are fulfilled, then the designer may better serve the needs of the general public. I feel this will help the designer accommodate the needs of the total user and solidify the design process.
Bibliography


The End