CHAPEL  
3278 SQ. FT.
A multi-denomination church is located in the complex to provide a balance between the mind, body, and spirit. The circular tower/steeple gives the chapel its position in the community.
Seating capacity = 200 people

PHYSICAL RECREATION CENTER  
3110 Sq. Ft.
A small scale, interior recreation center providing for the needs of the physical body. The structural tower represents this function and gives it a defined place in the community.

LIBRARY  
7900 Sq. Ft.
The library is a branch library that focuses on a specific subject. It is a public element like the theater that draws from outside the immediate community. It contains both interior and exterior reading areas. The library serves as a learning resource center to enhance the emotional and intellectual perceptions of our environment.
Upper level  2500 Sq. Ft.
Lower level  5400 Sq. Ft.

POST OFFICE  
1280 Sq. Ft.
The post office is provided as a convenience to communication. It has the potential to evolve into more advanced types of communication.

HEALTH CARE  
700 Sq. Ft.
A small medical facility is provided to maintain the general health of the people. This includes a nutrition center and health advisory office.

RETAIL  
1400 Sq. Ft.
A small corner grocery store is located in the center to provide basic necessities to the residents.

Total square footage of project = 73,400
THE SITE

The site for the project is located several miles west of Raleigh, North Carolina outside the city of Cary. It consists of approximately 175 acres of wooded hillside. The community rests on the SE slope of this wooded area bounded on the SE by a small stream which runs from a large reservoir on the NE end of the site. Presently the site is completely wooded with a mixture of tall pine and deciduous underbrush. The natural element of the water, vegetation, and mild climate lend themselves to any environment which can be constantly interacted with. The reason for selecting my site in this area was because of its proximity to Research Triangle Park. Research Triangle Park is a progressive, growing, highly technical research center which contains about 35 research organizations. The triangle area between Raleigh, Durham, and Chapel Hill has the highest concentration of PhD's in the country. I feel the people of this research park are dealing today with the technologies that will eventually affect all of us both psychologically and physically. This is the reason for placing a community for tomorrow in relation to Research Triangle Park.

Research Triangle Park is not a new phenomenon. It was founded in 1958 and has seen rapid growth and change in its lifetime. This growth has been stable and successful. Research Triangle Park is the only park of its kind and is probably the most successful in the United States.
The site sits at approximately 35° 46' N latitude by 78° 50' longitude in the piedmont region of North Carolina. The region is characterized by its cool, humid winters and its very warm, humid summers. The winter winds are characterized as light and come most often from the north. Summer winds, are also characterized as light and come from the SW direction and are normally below 11 mph. The average yearly rainfall is 48 inches.

During my visit to the site, several things impressed me. The stream which runs along the SE side of the site was much nicer than I had anticipated. The density and height of the vegetation was larger and more dense than expected. It was a very peaceful environment. It was not a place to be taken over by technological man, but rather a place where man could contact the natural environment. The area across the reservoir has been developed as the Cary City Park and remains mostly wooded. The reservoir itself is used for fishing. To the best of my knowledge, no plans for development are in the works on this site.
SITE ANALYSIS

ZONING CONCEPTIONS

FUTURE DEVELOPMENT

Approx. Size: 175 Acres

Legend:
- Boundary of Auto
- Human Place
- Public
- Heart

129 BC
Three conceptual planning schemes were investigated in the development of this community. The first diagram shows a split community center with housing focused upon three natural elements of the site. Entry is along the ridge of the site to the NW. The center here consists of two nodes of activity that seem to separate the people of the community. A stronger scheme shown in the second sketch is conceptually a spine with ribs. The center becomes a single complex of structures which flows down the hillside. The housing units then move along the slope as ribs to the center. This lends itself much better to the site but it still needs further integration into the natural environment. The third scheme is an adaption of the second. The community center rests as a single complex much like the spine moving down the hill. The housing for the community in turn follows the contours of the sloped site. This more strongly ties the man made environment to the site. The need to move up or down the slope is minimized by moving across the slope to get to the center.
This is a pedestrian oriented community. The automobile arrives on site from the ridge above and is not allowed down the slope to the stream. Parking is provided in proximity to the living units but without direct access. One must leave their car and walk outside to their living unit. The distances from parking to home and house to center are greater than is recommended. This is intentional, especially to increase one's perceptions of the physical environment. The residents have an obligation to participate with their social environment as well as their natural environment.

It must be understood that the living units themselves are not developed as part of this project. The community as a whole is developed conceptually to give the center its context on the site.
"Gratification, ease, comfort, diversion, and a state of having achieved all of one's goals do not constitute happiness in man."

John Gardner
THE DESIGN PROCESS
Because of the broad scope of this investigation the design process focused upon specific aspects of the environment and used specific resources to provide the foundation. The most important resource in the design process was *Second Self Computers and the Human Spirit* by Sherry Turkle. I would strongly recommend the reading of this source to anyone. It is not a book about architecture but rather a book for sociologists, psychologists, philosophers, architects, and everyone interested in the society that exists today in the United States. Turkle's information is used as an angle to attack a huge problem.

The architectural design is limited to the social center of this community. In a nutshell, the design process went through the following stages:

- Observation during, and conclusions drawn from experiences on the Golden Crescent tour.
- Research into, and the selecting of a site adjacent to Research Triangle Park.
- The adaption of the kibbutz society into a new context.
- Development of theories that the architect can utilize in all building types in his design process.
- Development of the program.
- The conceptual layout of the community as a whole.
- Schematic design options for the community center.
- The evaluation and selection of the most appropriate schematic option.
- The development of the individual functions and spaces of the center.
- And finally, the documentation of the project, the thesis, and the process.

The thesis was an investigation into the design process itself. In an investigation of this type, the process of inquiry is just as important as the project it generates.
EVALUATION OF SCHEMATIC OPTIONS

The following schematic options of the community center were investigated and evaluated in terms of the goals of the thesis. There are three basic approaches to their layouts.

1. The courtyard scheme - which revolves around a central exterior open space.

2. The central spine - which orientates itself along a line creating a division of open space and "side car" events not related to the line.

3. Axis and intersection - the linking of events through the use of path, node, and landmark without a single overall order.

The axis and intersection idea is most appropriate to the problem in my opinion. I believe there is an inherent problem in a project that reveals itself from a single position (the central courtyard) and much vitality is lost in a scheme with a single ordering system (the spine for example). The final solution incorporates elements from all three schemes, but is most influenced by the notion of axis and intersection. The central courtyard creates more problems than it solves in regards to the thesis. An environment which can be perceived and understood from a single vantage point is too often perceptually disregarded as it is experienced through time. The sequences of architectural experience are lessened and the environment becomes more static.

The spine, or any single ordering system, loses its vitality in its purest form. The order must be altered or broken at some point to increase the perception that the order does actually exist.

The combination of various systems, which I am calling the axis and intersection solution has several advantages. There exists a great potential in spatial sequence. Open spaces of different scales and importance can be linked together in an exciting environment. The project can reveal itself very carefully to the user through the experience of various parts and therefore be more strongly perceived.

The combination of ordering systems provides the complexity that is necessary in today's environments. A successful solution will define its ordering systems, violate those systems, as well as resolve how they come together.
- No facade
- No central space where everything is revealed
DEVELOPMENT OPTIONS

There exist in this project many design options which have not been fully investigated or incorporated into the scheme. The following are some of the sketches and diagrams done in the process of refining the design. They deal with specific functions within the project, as well as alternatives in the physical geometries and expressions of form.

"An interlocking spatial relationship consists of two spaces whose fields overlap to form a zone of shared space. When two spaces interlock their volumes in this manner, each retains its identity and definition as a space. But the resulting configuration of the two interlocking spaces will be subject to a number of interpretations."
SHAFT OF ENVIRONMENT
PENETRATES THE
MAN MADE ENVIRONMENT

INTERIOR

CLASS ROOM

Lounge

INTERIOR

CLASS ROOM

Lounge

TECH

INTERIOR

Exterior

CIRC

CIRC

CIRC
STUDY OF GEOMETRIES
DEVELOPMENT CONCLUSIONS

During the development of the project I have drawn several conclusions about what architecture should be in the age of information. First of all, the community center is a complex of buildings as opposed to a single structure. This is a response to the need to experience the natural environment as well as the simulated environments created by man. The center creates an obligation for the user. One must participate in the outdoor setting of the complex. There is a need to physically experience the changes in climate and seasons. One must wear a jacket when it is cold, or carry an umbrella when it is raining. Man must not be allowed to exist in purely simulated environments.

Stability exists within the complexity of built form. This complexity is then interpreted and unified by the user. Complexity can occur in geometry, juxtaposition, sequence of experience, and relationships of ordering systems to suggest a few possibilities. It is hoped this project demonstrates complexity through these means as well as others.

Another aspect deals with symmetry in architecture. I do not believe a symmetrical expression is as appropriate today as it may have been in the past. Symmetry cuts the user's perceptual stimulation in half when he only has to understand half a facade for example to get the whole picture. This project does not contain a single facade or image. It is better understood as a series of images.

A balance can be achieved between man, nature, and technology in the architectural environment. The built form must be clearly defined as man made and not try to simulate the natural environment. In other words, architecture should not try to be one with nature but be in harmony with it. A balance is achieved when two or more elements are equally opposed, not when there is a lack of disturbance.
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"Exploring the parts of ourselves that we do not feel in control of is a way to begin to own them, a way to feel more whole."

Sherry Turkle
A YEAR IN THESIS

A year of activities under the general term of thesis has become the greatest adventure in my life. The thesis year began on August 28, 1986, with the departure of the Golden Crescent architectural field study to the eastern Mediterranean, under the direction of Stan Mendelsohn. The trip included the countries of England, Greece, Egypt, Israel, and Italy, and is by far the most influential factor of this thesis. Because of the Golden Crescent trip, this thesis is essentially a two quarter thesis.

Upon return from the Golden Crescent on November 27, 1986, the second quarter of thesis (first quarter of development) began. The activities of winter quarter included absorbing information gathered first quarter, research into the new needs, problems, potential solutions of an evolving society, and the schematic development of a kibbutz like the community near Research Triangle Park, North Carolina. Researching and selecting a site, programming the project, and translating psychological theory to architectural form were also important activities of the second quarter.

The final quarter of thesis was spent in schematic design and design development. It was an exercise in how to design on my feet. While the project is not completely developed because of the time constraints of a two quarter thesis, I am very satisfied with the amount of development which has occurred. Most importantly, the thesis has given me a chance to discover my own capabilities and limits. The struggle has been the desire to accomplish so much since the conclusion of the Golden Crescent trip. The conflicts never seemed to end. Coinciding with my thesis during the last quarter, I was involved in the largest and most complex design problem of my life. The Golden Crescent "sketches from the mediterranean", multi-media presentation became an obsession which had to be balanced against the desire for and belief in this architectural thesis.

Following is an appendix to supplement the presentation of the thesis. It is a collage of influences, beliefs, and background into the development process.
WRITTEN SUMMARY
THESIS 404


The following paper was submitted at the conclusion of the Golden Crescent Trip as a summary of my thesis approach.

The age in which we exist has produced a highly technical, constantly changing society. Members of today's society need a consistent framework to deal with rapid change. Through the full utilization of human senses, people become more in touch with themselves and their environments. Architecture provides the consistent psychological familiarity which establishes the stability in life needed to deal with constant change. At the conclusion of my first quarter of thesis (Arch 404) my approach revolves around these ideas. My thesis statement is that by creating social environments which stimulate human sensory perception, architecture can provide a framework of consistency within a world of constant change. This is a summation of my conclusions during Arch. 404 on the Golden Crescent trip.

The people of today's society have come to expect change to occur rapidly and constantly. In today's world there is a need to adjust and deal with the constant changes that occur. This is probably seen more clearly in the children of today than the elderly who do not accept change as rapidly. With so many advancements in technology and communications, the school children of today are more comfortable with change. Stability is coming from a consistent, progressive, pattern of change. The generation which I exist in is one caught between a more traditional past and a highly technically advanced world of information and the computer. This is the generation which must bridge the gap between the two.

One of the most important elements within everyone's life is the space which they inhabit. The places of work, play, living, and believing all must improve upon the life of the user. Within this framework the question which I ask is does architecture provide flexibility to change as needs change or is it very stable in order to provide a consistent point of reference to deal with other elements. The environment of high technology is often very cold and inhuman to the human being which created it. Society has the power to control itself and architecture has the ability to meet the changing problems of the society. It can provide for both physical and psychological needs. It can provide for man as an individual and man as a social animal. Today, the need to deal with rapid change is as important as ever. One way to fulfill that need is through the medium of architecture.

One of the conclusions I see in providing a framework of consistency conceptually is through psychologically familiar environments. Space can be familiar and comfortable without necessarily being a repetition of physical elements seen before. The character of the environment can provide this familiarity. Past examples must be studied and applied but not as a copy. Obviously the needs of people change and the spaces they inhabit
must adapt to these changes. Architecture can be something familiar that the user can relate to each time interaction with an environment occurs, even though every other element in one's world is changing. Familiarity comes from the fulfillment of the expectations of the user. The goal then is the creation of environments which the user can easily relate to and be familiar with even though the space has never been encountered before. It is a physical event translated through all of man's senses to be interpreted in the mind. Psychological familiarity deals with emotion and intellectual perception, which expressed architecturally provides consistency and familiarity in change.

Architecture and the society in which it exists cannot and should not be separated. This thesis is an increase in the awareness of this relationship. Society is infinitely diverse in the United States today. Within this diversity I feel there are many positive elements which can be reflected. The community project I am proceeding to develop should be on the leading edge of a positive symbolism of the world of rapidly changing technologies and means of communications. More importantly it must be symbolic and appropriate to the people that exist within this world. It is impossible to understand completely the entire psychological, philosophical and cultural make up of the society I live in, but it is possible to combine logical assumptions, practical observations, and conventional research to assist in understanding the stronger, positive relationships between society and architecture. This is another underlying goal of the thesis.

The implications of the investigation I have arrived at, as my current thesis statement says, centers around human sensory perception. The assumption is that sensory perception can be utilized to create the framework of consistency I feel is needed for the people of today's world. Perception, as it applies to my investigation, focuses on these aspects. These are physical, emotional, and intellectual perceptions. Physical perception deals with sight, sound, touch, smell and balance. Emotional perception deals with symbolism, initial reaction, powerful and sometimes irrational reaction. Intellectual perception deals with proportion, arrangement, order, and recall. It is a more controlled response than the emotional perception. These are the conceptual means I am investigating to provide the framework of consistency.

Within the realm of perception, I have concluded that certain elements will come into play. One of the areas of investigation and resolution is the relationship of man to the natural environment. This relationship has the potential to provide solutions to the problems I see. Nature itself is constantly changing and evolving. It is also the most consistent element which we deal with. It stimulates the physical, emotional and intellectual capabilities in man. The relationship between man and nature will be very important.

Another important relationship is that of man to the machines of technology he has created. The needs which became apparent can be incorporated into the solutions. This investigation is being accomplished through one source particularly. The book Second Self Computers and the Human Spirit by Sherry Turkle describes this relationship in a clear way. Other areas of the investigation which I focused on in my first quarter, and will continue to evolve, include mental and physical recreation, social interaction and community. All of these must be considered within the boundaries of sensory perception and experience which remains the focus.
The project itself has evolved during the first quarter through the experience on the Kibbutz Ramat Yoanan during the Golden Crescent trip. This is used as a model to be adapted to new circumstances. From the Kibbutz I draw the basic organization and population. My project is a single community of 700 occupants. It revolves around a single community activities center which contains all the major public functions in a concentrated area, as opposed to a series of sub-centers placed throughout the community. The population will be made up of many different social classes and all age groups. The goal is the stimulation of perception and the development of a strong sense of community. The implications of the program have evolved from the Kibbutz experience and the needs I see at this time. The programming is subject to change as it develops further.

The site for this project in the research triangle in North Carolina between Durham, Chapel Hill and Raleigh. The Research Triangle Park is located in the center of this triangle. Although a specific sight has not been selected at this time, the site will be located in direct proximity to the Research Triangle Park, between the park itself and one of the major cities and universities. This will provide the opportunity to draw residents from the park, a university and another community to insure a wide diversity in the social make up. A specific site will be selected immediately.

The goals and conclusions which evolve from my first quarter investigation center around the stimulation of sensory perception of the built environment, the natural environment and within oneself. The goal is to provide consistency in a world of constant change. The first step toward a resolution is to understand the current and future needs and patterns of a constantly changing society. My investigation in the second quarter of my thesis will be the interpretation of these needs and their application to architecture. The design of the project itself will begin immediately and its development will be concurrent with the development of the program as well as continuing my research into the relationship of man to his natural environment and man to his technological environment. My thesis investigation during Arch. 404 has raised many questions and theories to be tested. Through these observations, beliefs and conclusions derived this first quarter, I can proceed with their expression in an architectural language.
THE GOLDEN CRESCENT

The impact of the Golden Crescent study experience on this thesis is impossible to overestimate. The places I experienced have changed my outlook on architecture forever.

The experience on the kibbutz provided the fundamental research for the project as well as a very rewarding personal experience. The four weeks spent on the Kibbutz Ramat Yohanan, east of Haifa, Israel gave me the chance to experience an alternative social lifestyle and a chance to get to know the people who live this way of life. The people of Ramat Yohanan explain their lifestyle in the following manner:

"The principles of our life are based on mutual responsibility, needs, productivity and equality. Each one works in accordance with his or her physical and intellectual potential and in return all needs are provided for within the limitations of the kibbutz. We manage to live only from the fruits of our labor and the ingenuity of our members. Our way of life is democratic and is determined by free will and free choice. The structure of our society consists of over twenty committees who administer all kibbutz matters. The practice of rotation is adhered to and assignees are changed every two to three years. The elected secretariat initiates and decides in the interest of the membership, the society and the settlement, and is responsible for the execution of all decisions. The sole power is the General Meeting, which is the source of authority of the entire kibbutz.

Life in our commune is a day to day experience of aspiration towards unity and achievement. It is a society where we respect human qualities, serve our nation and are loyal to the labor movement."

The following information was gathered during my stay on the kibbutz. The typed literature was provided by the kibbutz and the personal notes were taken from lectures by members of the kibbutz.
Ramat Yohanan

Kibbutz Ramat Yohanan is located about four miles east of the city of Haifa, in the Western Valley, together with the kibbutzim Kfar Hamakabi and Hada. It was founded in 1932 by a group of pioneering youth, most of whom were graduates of an agricultural high school in Palestine. They organized themselves as a settlement group in 1926 and spent the next six years working in various parts of the country including tobacco curing, afforestation, construction, and agriculture. During this period they were joined by a group of immigrants from the United States.

Ramat Yohanan was the second kibbutz to be established in the Western region as part of a concerted effort by Jewish settlement authorities in Palestine to establish a strong Jewish presence in the area and to farm the lands which had been purchased by the Jewish National Fund at great expense and effort. Only in 1934 did the kibbutz take its present name in honor of Jan Smuts, former prime minister of South Africa and a supporter of Zionism.

Kibbutz Ramat Yohanan, 30035.

Founded: 1934.


Population: Approximately 700, including 375 members and 190 children.

Schools: Younger children attend the regional elementary school located at Zevulun. Older children attend the regional high school at Zanibar Yaffo.

Sports and Culture: The kibbutz has a library, archives, coffee bar and lounge, music room, swimming pool and sports fields, and is the site of a regional amphitheater, and the kibbutz federation's holidays and festivals archive.

Services: Kitchen, dining hall, children's houses, infirmary, laundry, sewing room, bookbindery, shoemaker, carpentry and electrical repair shop, garage and welding shop.

Agriculture: Ramat Yohanan farm approximately 1500 acres of land, and has an additional 400 acres of natural pastureland. Major agricultural branches include cotton, olive, cypress, pear and citrus fruit, poultry, dairy barn and a cattle herd.

Industry: The kibbutz factory, "Fazer," manufactures corrugated and non-corrugated plastic boards.

Spring 1984

Published by the Center for Kibbutz Studies, Tel Aviv University, Israel.
LECTURE 10.28.85

PLANNING ON THE KIBBUTZ

Specifically Ramiel Yohanna

- How does planning come about on the Kibbutz?
- Specific Project example

**Proposed Cultural Center**

- Sociological questions
  - Why do the people want it?
  - Which tradition would have to be eliminated or altered to accommodate the new center?
- Design by committee is difficult.
  - The design is brought to the planning committee and then to the general assembly.
- After about 4 years of work, the architect left the project to do a project on his own Kibbutz.
  - At this point, the project began again from the beginning.
- Problems which arise from the people
  - One group is simply against the project.
  - Other group feels it has better solutions to offer.
  - One group is uncertain of the project validity.

**New Project**

- Creation of a new center for the Kibbutz.
  - Using a combination of new structures with existing ones.
- Make a true social center for the Kibbutz.

**The Main Building of the Project**

- A large complex which includes museum, exhibition space, meeting rooms, social clubs, the theater, and even parking. Flexible to accommodate many different types of audiences.
- Many possibilities are created.
- The complex is created in such a way that people do not need a specific reason or event to come to this place. There are many possibilities created.
- Not every architect is psychologically built to work with Kibbutziks.
- Design by committee is so difficult.
- Working with a community can also be very rewarding.

The building can reflect the needs, needs, qualities, idiosyncrasies, and values of the people, can be incorporated in a positive way. This is important to truly reflect the society.

LECTURE 10.29.85

**History of the Kibbutz**

- Zarikiya: marked a secular movement
  - Told to create a new Jewish movement based on national identity rather than religious identity.
- Socialist Zionism
  - Kibbutz turned into a socialist movement.

**Early 1900's**

- In Europe, the Jewish people were found in only a small part of society. Mostly white collar professions.
- 1903 movement of people to Israel to establish a new Jewish society. The 2nd Immigration
  - The land was very poor at this time.
- 1919: The Third Immigration
  - The British promised to build up the country. They were the first to honor this promise.
- 1930's: Many Jews from Eastern Europe immigrated to Australia.

**1909: First Kibbutz is created in Jordan Valley**

**1922: First Kibbutz is formed in the present-day Kibbutz Hadar**

**1932: Kibbutz也因此 is established.**

- The first building was built in the Jordan Valley in the town of Kibbutz Hadar.
- 1940's: The Transfer
  - About 200 people from the Kibbutz Dor HaHag, came to the Kibbutz Hadar.
  - The elite youth people from Eastern Europe and Russia to Israel, had better social positions and became farmers. They felt it was historically the most appropriate.
HAIFA UNIVERSITY

COMMUNITY PLANNING BACKGROUND
THROUGH INFORMATION

A schematic layout of land settlement is shown.

- Population density
- Land use patterns
- Infrastructure

- Village
- Farmstead
- Focal point

- Residential areas
- Commercial areas
- Industrial areas

- Water supply
- Waste disposal
- Roads

- Regional and local centers
- Service facilities

- Transportation networks
- Communication systems

- Physical planning is not the only factor in the community.
"SKETCHES FROM THE MEDITERRANEAN"

The following sketches are a small example of the variety of spaces encountered during my first quarter of thesis. They represent a small number of the 80 sketches I did during the travel experience. The knowledge I gained from the sketches I did has been invaluable to this thesis investigation.

Athens Nike Approach
9/3/85
Phileae
Temple of Isis
GRANT PROPOSAL
THESIS 405

The following grant proposal was submitted for an architectural research course during thesis 405 winter quarter. It expands upon the theories of Teleological Aesthetics and its role in my thesis investigation.

BACKGROUND

The society in which we exist in today is in transition between the dying age of the industrial revolution and the emerging age of informational technologies. The individual of today's world must deal with change that occurs more rapidly than he can control. In Alvin Toffler's The Third Wave, he traces the three major movements in the history of civilization. Man's existence began in a prehistoric society, then transformed into the age of the industrial revolution. We are now beginning to experience the age of information. The past civilizations brought with them specific needs, problems and solutions to the societies of their times. As an architect in today's society, one must recognize that we have moved into a powerful new age which also brings with it a new set of needs, problems and potential solutions to new circumstances. The wave of informational technologies brings changes which have never been experienced at such a rapid rate. How we perceive our changing environment, and what we need to deal with change, must influence the way the architect designs the built environment.

A perceptual framework of stability and stimulation is important in everyone's life. Man finds his environment through three aspects of perception. The physical, emotional, and intellectual perception stimuli are combined to achieve optimum understanding. Through an increase in this perceptual awareness, and the utilization of all of the senses, one becomes more in touch with himself and his environment.

Successful architecture has always been, and will continue to be, an aesthetic experience in these three perceptions. Architecture is a series of sequences experienced through time and brought to life by motion. This experiential aspect of aesthetics can be separated into four distinct orders, which are described by Peter F. Smith in Architecture and the Human Dimension.

Experiential aspects of aesthetics:

FIRST ORDER: "the innate capacity to derive pleasure from elegance whether represented by balance or harmony."

SECOND ORDER: "aesthetic perception centers around the principle of rhyme, or 'lightness tempered with difference'. A particular presentation is first perceived as complex. This involves the stimulation of arousal emotion which constitutes the primary reward system."

THIRD ORDER: the principle of rhyme associated with balance or harmony. "fundamental harmonic sensitivity"

FOURTH ORDER: "musical aesthetic response" Pleasure is derived from "sensory incidents at saturation intensity".

As Smith states, these are functional modes of the central nervous system. They are then applied to a situation. In the age of information, these aspects of aesthetics are very important because they are what separate man from the technology which he has created. The second order described above serves as the background for this investigation.

To complete the background for the study and better understand the effects of the age of information on our lives, an additional source enters in. There are many issues involved in studying how technology has affected the way we perceive ourselves in the environment. Second Self Computers and the Human Spirit by Sherry Turkle, describes these issues in depth. Throughout history, man has relied on his instincts to differentiate elements of his world. He has generated sets of criteria in which to judge and understand his environment in order to take full advantage of it. Man's environment should provide rewards derived from these criteria. As much as we tend to refuse to admit it, we exist in a goal oriented society. Information and especially the growth of the computer is confusing much of the criteria that man has established in the past. Turkle describes this uncertainty as the "New Disorder". As technologies continue to confuse the instinctive criteria of man, man himself must create new criteria for judgement and in turn these new criteria must be fulfilled in his environment.
THE PROBLEM

This study is an investigation into what is one essential part of a many faceted approach to designing for the age of information. There is an increasing tendency for technology to conflict with the essence of man. There is an increasing instability in our changing society between man and the technology he has created. What techniques can architecture employ to provide stable and stimulating environments for the individual in an emerging society which tends to be hyperational? What are the new problems which need to be addressed in the architecture? Many of the problems are described by Turgenev, and many of the solutions must come from the generations which are bridging the gap between two great civilizations.

In looking at the problem, many aspects will need to be addressed. This study is to focus on one part; obligation and reward within a stable architectural environment. If the study were to be continued, it would begin to address a series of elements that have potential to contribute to an architecture for a new age. Within the second order of aesthetic perception, other bi-polarizing elements deserve investigation. Order and disorder, disturbance and relief, mystery and transparency, separation and confrontation, the whole and fragmentation are all components which could be successfully manipulated within an evolving architectural system and deserve further study. The problem issue here deals with the idea of reward and obligation as it provides stability in architectural environments.

OBJECTIVES

This study has four main objectives.

1. To understand the relationship of obligation to reward.

2. To understand the notion of stability that comes from obligation and reward that is enhanced through its purposeful effort to obtain it.

3. To provide a framework in the built environment to help man differentiate himself from technology.

4. To test the proposals and theories in the design of a social community which serves the workers of a highly technical research park in the United States.

When combined with the other essential factors of bi-polar elements listed above, the goal here is to establish a perceivable stability to enhance the quality of life. Architecture can establish goals as well as the means to obtain those goals, both in a philosophical sense and in physical reality. The establishment of the appropriate relationship between reward and obligation is a goal. This is a test of the notion that stability can be provided through purposeful effort in achieving a goal.

APPROACH: CONCEPTUAL FRAMEWORK

In the investigation of reward and obligation in architecture, the background framework of Peter Smith's four experiential aspects of aesthetics already established can be further defined. In applying these experiential aspects of aesthetics, which are understood as functioning modes, there are three aesthetic orders that are common to each: Smith defines these in the following way:

Aesthetic Orders:

1. Holistic Aesthetics— the whole organization of sensory events is somewhat greater than the sum of the parts. Complexity and unity are seen as an integrated whole from the outset.

2. Teleological Aesthetics— a "progression towards a climax or goal." Complexity resolves itself into unity. "Stress" is generated in order to provide "relief".

3. Linear Aesthetics— short-term patterns of change occurring in sequence. Aesthetic impact is built up from numerous changes, each with aesthetic potential. This extends to many areas without reaching a discernible climax.

This study is grounded in the framework of teleological aesthetics. This establishes the relationship between purposeful effort and the goal. Under this aspect of aesthetic order, Smith establishes three categories of organization which architecture can respond to in stimulating the idea of progression to a goal. These are the focus of the framework.

Categories of organization

1. Rapid rhythm of architectural elements "create a movement compulsion which, by its very nature, implies the existence of a goal which will reward the effort of the movement." Historic example: Uffizi Gallery, Florence.

2. "Architecture can imply the presence of a goal by means of a prestige gradient." There is excitement of expectation toward a climax. Historic example: the process of proceeding to and arriving at the Acropolis of Athens.
3. The impact of "the presence of a visual part of the goal which comprises the client to the building." The goal is partially revealed and creates the drawing power of the movement. Historic example: Bensberg Administrative Offices.

Reward and obligation are investigated in terms of circulation in architecture. Circulation specifically focuses on the notions of path, node, and landmark.

Teleological aspects of architecture relates to the capacity of the mind to construct whole models by means of the probability established by a portion of the building. Once the goal is reached, it is seen in relation to the routes which led towards it; thus a means to understand the whole through assembling the fragments. What roles men special in his environment is his capability to create an overall mental model from an appropriate set of stimuli. (The physical model) This is one means of providing aesthetic satisfaction in terms of rewards and obligations.

APPROACH: METHOD OF APPLICATION

The method to evaluate the proposal and criteria is the demonstration of theories through the design of a social community which supports the Research Triangle Park located between Raleigh, Durham, and Chapel Hill, North Carolina. The point of departure for the project begins with the model of the Kibbutz society in present-day Israel. This society is then adapted and transformed into a new cultural environment. Specifically, this environment is contained in the age of information. The project responds in several ways in its translation from an agrarian civilization to the emerging age of information in the United States. It adapts technology as a given and understands that the purpose of technology is to enhance the rights of mankind. It also recognizes and maintains the importance of the natural environment in mankind's existence. The project is not trying to transplant the Kibbutz into a new context. It is an emerging idea of community based upon a new set of criteria and problems brought to our lives by the changing patterns of information. The social cohesion of community today is imperative in providing stable environments.

Simultaneously involved in the development of the project, two other procedures must take place. These provide the content base for decision making.

First: Information can be gathered through observations drawn from the context we all exist in today. This includes both subjective and objective observations, and substantiated conjecture.

Second: Reading the works of experts who are dealing with similar issues. This includes the architect, psychologist, socialist, and futurist. Conclusions can then be drawn and applied to specific notions of teleological aesthetics.

There are many models of community which can be utilized in this study but the notion of reward and obligation in teleological aesthetics inherently transcends to a wide range of architectural situations. It is believed that purposeful effort towards a goal can provide one aspect of a stable environment for the individual in society. In their translation to architecture, obligation and reward become path and node. The perceived relationship between these two characteristics is what provides stimulation, anticipation, satisfaction, and stability for the user. Understanding how, why, and to what degree this occurs is the objective of the study.
This address, given by Mies van der Rohe in 1950, exemplifies the modernist's view of technology and its role in architecture. It is influential in this thesis work only because of my disagreement with Mies's notions of technology. Technology is not a world in itself. Technology alone cannot reach its real fulfillment and transcend into architecture.
1950: ADDRESS TO ILLINOIS INSTITUTE OF TECHNOLOGY

Technology is rooted in the past.
It dominates the present and tends into the future.
It is a real historical movement—one of the great movements which shape and represent their epoch.
It can be compared only with the Classic discovery of man as a person,
the Roman will to power,
and the religious movement of the Middle Ages.
Technology is far more than a method,
it is a world in itself.
As a method it is superior in almost every respect.
But only where it is left to itself as in gigantic structures of engineering, there technology reveals its true nature.
There it is evident that it is not only a useful means, that it is something, something in itself, something that has a meaning and a powerful form—so powerful in fact, that it is not easy to name it.
Is that still technology or is it architecture?
And that may be the reason why some people are convinced that architecture will be outmoded and replaced by technology.
Such a conviction is not based on clear thinking.
The opposite happens.

Wherever technology reaches its real fulfillment, it transcends into architecture.
It is true that architecture depends on facts, but its real field of activity is in the realm of significance.
I hope you will understand that architecture has nothing to do with the inventions of forms.
It is not a playground for children, young or old.
Architecture is the real battleground of the spirit.
Architecture wrote the history of the epochs and gave them their names.
Architecture depends on its time.
It is the crystallization of its inner structure, the slow unfolding of its form.
That is the reason why technology and architecture are so closely related.
Our real hope is that they grow together, that someday the one be the expression of the other.
Only then will we have an architecture worthy of its name:
Architecture as a true symbol of our time.
"The typical delusion is of being run by an influencing machine...so man's delusions in a machine world seem to be tokens of both our hopes and our fears of what machines may do for us, or to us."

Sherry Turkle
A NOTE ON AALTO AND STIRLING

I would like to acknowledge the influence of two architects that were part of my research to the thesis. The first is James Stirling. I specifically refer to the New Staatsgalerie extension/chamber theater in Stuttgart. The building described in "Progressive Architecture" October 1984.

"The building has no traditional facade that creates a single first image; nor does it present itself as a modern building might, as an identifiable freestanding sculpture on a plane." Peter Cook from the Architectural review states "the entire compositional sketch must be meant by Stirling to be seen from a preferred set of reference points, as the whole is too large and the street too narrow." Stirling himself states "The front recedes, presenting a series of incidents adjacent to the walking movement into, through and across the building. No elevation drawing, and no photograph can reproduce the experience."

I believe architecture should be an experience. A drawing or photograph should not be able to capture the true experience of a building. Architecture like society is a many faceted, complex element. Stirlings work at Stuttgart, West Germany attempts to express this.

The second architect who has been influential in this study is Alvar Aalto. I strongly believe in several characteristics of his work which I believe also strongly support my thesis position. Aalto's characteristic building geometries are fragmented rather than organic. In his building, the built form and natural environment represent a fundamental antagonism. The final victory of nature over the creations of man is already conceded by Aalto's work at their inception. In comparing Aalto to Frank Lloyd Wright, Wright's built form and the natural environment come together to make up a metaphor in organic unity. The building geometries create that unity. Aalto contrasts the natural with the technical. As technology continues to confuse the notions of life and non-life, natural and simulated, and mind and machine, Aalto's approach in relating the built environment to the natural environment is more appropriate in the age of high technology.
DEVELOPMENT OF A CONCEPTUAL MODEL

CLEAR DEFINITION
- BLACK: That which is understood to "be" in a certain way, a certain purpose
- WHITE: That which is understood to "be" the other way, a certain purpose

UNDERSTOOD/PERCEIVED SEQUENCE OF EVENTS
- ORDER IN EXPERIENCE

GREY: That which is unclear but within boundaries
- Spontaneous
- Continually being discovered
- Apparently RANDOM HAPPENING
- Conflict/invert/imperfection

SEPARATED BY TIME & DEMANDS
- Difficulty provides stability
- Appreciation

ORDER IN EXPERIENCE
- SEQUENCE OF EVENTS UNDERSTOOD
- SEPARATED BY TIME/DEMANDS
- CLEAR DEFINITION
  BLACK — GREY — WHITE.
INITIAL SKETCHES

The following sketches are part of the earliest stages of the design process. They are used as a means of searching. They are searching not so much for answers as they are searching for the right questions. It is hoped that the sketches will provide some insight into the beginning stages of the project. The design process must begin with the right questions, not with answers.

SELECTING A SITE
- Quick + reasonable approach
- Grid off potential areas
- Mark each square of advantage + disadvantage
- List of needs and positive characteristics
- For a right (site on E looking right)
- Narrow possibilities and make a selection
- Process of elimination
- Note trend list of needs/defences
- Get aerial photography of specific area
- Preferably 500 acres
- Get whatever other info is available

SITE ELEMENTS

1. Variety in topography
2. Natural elements
3. Climate/built area
- Existing trees
- Existing water
- Size: about 500 acres
- Mineral or no existing development
- Include site studies as possible while still in planning

1.29.86
**Spatial Relationships**

- Major Elements

![Diagram of spatial relationships with nodes and paths]

- **Path**
  - Diverge at nodes
  - Come together at nodes
  - Change direction at nodes
  - Occupation

- **Node**
  - Reward
  - Transparency
  - Confrontation
  - Order
  - Noise
* Consistent repetitive element as node used in different geometries and positions.

 PIECES LINKED TOGETHER
Pattern organizes a random pattern of elements through their regularity, continuity and constant presence.
THE AIM OF EDUCATION IS NOT THE PRACTICE AND CULTIVATION OF SPECIFIC CAPABILITIES, BUT THE CONSCIOUSNESS OF THE VALUE OF KNOWLEDGE.

Sokrates